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SERVICES

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August 11, 2009

Mr. Michael Neely  
CH2M Hill Plateau Remediation Company  
P.O. Box 1600  
Mail Stop – B6-06  
Richland, WA 99352

Reference: **P.O. #33677**  
**Eberline Analytical R9-07-138-7863, SDG H4026**

Dear Mr. Neely:

Enclosed is a data report for nine solid (soil) samples designated under SAF No. R09-017 received at Eberline Analytical on July 31, 2009. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

N. Joseph Verville  
Client Services Manager

NJV/jag/ljb

Enclosure: Data Package

**Case Narrative**

**Page 1 of 2**

**1.0 GENERAL**

CH2M Hill Plateau Remediation Company (CHPRC) Sample Delivery Group H4029 was composed of nine solid (soil) samples designated under SAF No. R09-017 with a Project Designation of: ARRA 200-CW-3 – Soil Sampling.

The samples were received as stated on the chain-of-custody documents. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist.

**2.0 ANALYSIS NOTES**

**2.1 Tritium Analysis**

The results for both the original and duplicate analyses were less than their respective MDA's, therefore no RPD is calculated, and there is no associated control limit. No problems were encountered during the course of the analyses.

**2.2 Nickel-63 Analysis**

The results for both the original and duplicate analyses were less than their respective MDA's, therefore no RPD is calculated, and there is no associated control limit. No problems were encountered during the course of the analyses.

**2.3 Total Strontium Analysis**

The results for both the original and duplicate analyses were less than their respective MDA's, therefore no RPD is calculated, and there is no associated control limit. No problems were encountered during the course of the analyses.

**2.4 Technetium-99 Analysis**

The results for both the original and duplicate analyses were less than their respective MDA's, therefore no RPD is calculated, and there is no associated control limit. No problems were encountered during the course of the analyses.

**2.5 Isotopic Thorium Analysis**

The results for both the original and duplicate analyses were less than their respective MDA's, therefore no RPD is calculated, and there is no associated control limit. No problems were encountered during the course of the analyses.

**2.6 Isotopic Uranium Analysis**

The results for both the original and duplicate analyses were less than their respective MDA's, therefore no RPD is calculated, and there is no associated control limit. No problems were encountered during the course of the analyses.

**2.7 Isotopic Plutonium Analysis**

The results for both the original and duplicate analyses were less than their respective MDA's, therefore no RPD is calculated, and there is no associated control limit. No problems were encountered during the course of the analyses.

**2.8 Americium-241 Analysis**

No problems were encountered during the course of the analyses

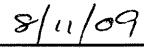
**2.9 Gamma Spectroscopy**

No problems were encountered during the course of the analyses.

**3.0 Case Narrative Certification Statement**

**"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."**

  
\_\_\_\_\_  
N. Joseph Verville  
Client Services Manager

  
\_\_\_\_\_  
Date

E B E R L I N E   S E R V I C E S / R I C H M O N D  
SAMPLE DELIVERY GROUP H4026

SDG 7863  
Contact N. Joseph Verville

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

S U M M A R Y   D A T A   S E C T I O N

T A B L E   O F   C O N T E N T S

About this section	· · · ·	1
Sample Summaries	· · · ·	3
Prep Batch Summary	· · · ·	5
Work Summary	· · · ·	6
Method Blanks	· · · ·	9
Lab Control Samples	· · · ·	12
Duplicates	· · · ·	14
Data Sheets	· · · ·	17
Method Summaries	· · · ·	26
Report Guides	· · · ·	38
End of Section	· · · ·	52

*VB*

Prepared by

*n. Joseph Verville*

Reviewed by

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-TOC  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**A B O U T   T H E   D A T A   S U M M A R Y   S E C T I O N**

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

**SAMPLE SUMMARIES**

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

**PREPARATION BATCH SUMMARY**

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

**WORK SUMMARY**

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

**METHOD BLANKS**

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

**LAB CONTROL SAMPLES**

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

**REPORT GUIDES**

Page 1

**SUMMARY DATA SECTION**

Page 1

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09  
**Page 5 of 66**

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**G U I D E ,   c o n t .**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**A B O U T   T H E   D A T A   S U M M A R Y   S E C T I O N**

**D U P L I C A T E S**

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

**M A T R I X   S P I K E S**

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

**D A T A   S H E E T S**

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

**M E T H O D   S U M M A R I E S**

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

**R E P O R T   G U I D E S**

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

**R E P O R T   G U I D E S**

Page 2

**S U M M A R Y   D A T A   S E C T I O N**

Page 2

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

SDG <u>7863</u>
Contact <u>N. Joseph Verville</u>

## LAB SAMPLE SUMMARY

Client <u>CHPRC</u>
Contract No. <u>33677</u>
Case no <u>SDG H4026</u>

LAB							
SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CUSTODY	COLLECTED
R907138-01	B210X2	UPR-200-N1;C7475;I-RZ	SOLID	R09-017	R9-017-320	07/23/09 08:45	
R907138-02	B210X3	UPR-200-N1;C7475;I-TD	SOLID	R09-017	R9-017-321	07/23/09 08:55	
R907138-03	B210X8	UPR-200-N1;C7474;I-TD	SOLID	R09-017	R9-017-326	07/21/09 10:55	
R907138-04	B21106	UPR-200-N1;C7474;I-RZD	SOLID	R09-017	R9-017-336	07/21/09 10:48	
R907138-05	B21C94	UPR-N1,C7493;I-001	SOLID	R09-017	R9-017-390	07/23/09 11:57	
R907138-06	B21C96	UPR-N1,C7493;I-001D	SOLID	R09-017	R9-017-393	07/23/09 11:57	
R907138-07	B21C98	UPR-N1,C7493;I-002	SOLID	R09-017	R9-017-396	07/23/09 13:10	
R907138-08	B21CB0	UPR-N1,C7493;I-003 (15)	SOLID	R09-017	R9-017-399	07/23/09 13:22	
R907138-09	B21CB2	UPR-N1,C7493;I-004 (15)	SOLID	R09-017	R9-017-402	07/23/09 13:30	
R907138-10	Lab Control Sample		SOLID	R09-017			
R907138-11	Method Blank		SOLID	R09-017			
R907138-12	Duplicate (R907138-04)	UPR-200-N1;C7474;I-RZD	SOLID	R09-017		07/21/09 10:48	
R907138-13	Lab Control Sample		SOLID	R09-017			
R907138-14	Method Blank		SOLID	R09-017			
R907138-15	Duplicate (R907138-05)	UPR-N1,C7493;I-001	SOLID	R09-017		07/23/09 11:57	

### LAB SUMMARY

Page 1

### SUMMARY DATA SECTION

Page 3

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LS</u>
Version <u>3.06</u>

Report date 08/11/09

## EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

SDG 7863  
 Contact N. Joseph Verville

## QC SUMMARY

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4026

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	RECEIVED	COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7863	R9-017-320	B210X2	SOLID	95.8	754 g		07/31/09	8	R907138-01	7863-001
	R9-017-321	B210X3	SOLID	95.0	795 g		07/31/09	8	R907138-02	7863-002
	R9-017-326	B210X8	SOLID	95.5	858 g		07/31/09	10	R907138-03	7863-003
	R9-017-336	B21106	SOLID	95.8	856 g		07/31/09	10	R907138-04	7863-004
	R9-017-390	B21C94	SOLID	95.3	205 g		07/31/09	8	R907138-05	7863-005
	R9-017-393	B21C96	SOLID	94.2	206 g		07/31/09	8	R907138-06	7863-006
	R9-017-396	B21C98	SOLID	96.6	237 g		07/31/09	8	R907138-07	7863-007
	R9-017-399	B21CB0	SOLID	95.5	220 g		07/31/09	8	R907138-08	7863-008
	R9-017-402	B21CB2	SOLID	95.2	211 g		07/31/09	8	R907138-09	7863-009
	Method Blank		SOLID						R907138-11	7863-011
	Method Blank		SOLID						R907138-14	7863-014
	Lab Control Sample		SOLID						R907138-10	7863-010
	Lab Control Sample		SOLID						R907138-13	7863-013
	Duplicate (R907138-04)		SOLID	95.8	856 g		07/31/09	10	R907138-12	7863-012
	Duplicate (R907138-05)		SOLID		205 g		07/31/09	8	R907138-15	7863-015

## QC SUMMARY

Page 1

## SUMMARY DATA SECTION

Page 4

Lab id EBERLINE  
 Protocol CHPRC  
 Version Ver 1.0  
 Form DVD-QS  
 Version 3.06  
 Report date 08/11/09

Page 8 of 66

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

SDG <u>7863</u>
Contact <u>N. Joseph Verville</u>

## PREP BATCH SUMMARY

Client <u>CHPRC</u>
Contract No. <u>33677</u>
Case no <u>SDG H4026</u>

TEST	MATRIX	METHOD	PREPARATION ERROR			PLANCHETS ANALYZED				QUALI-	
			BATCH	2σ %	CLIENT MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	FIERS
<b>Alpha Spectroscopy</b>											
AM	SOLID	Americium 241 in Solids	7211-175	8.0	4			1	1	1/1	
PU	SOLID	Plutonium, Isotopic in Solids	7211-175	8.0	4			1	1	1/1	
TH	SOLID	Thorium, Isotopic in Solids	7211-175	8.0	4			1	1	1/1	
			7215-025	8.0	5			1	1	1/1	
U	SOLID	Uranium, Isotopic in Solids	7211-175	8.0	4			1	1	1/1	
<b>Beta Counting</b>											
SR	SOLID	Total Strontium in Solids	7211-175	10.4	4			1	1	1/1	
TC	SOLID	Technetium 99 in Solids	7211-175	13.2	4			1	1	1/1	
<b>Gamma Spectroscopy</b>											
GAM	SOLID	Gamma Scan	7211-175	7.0	4			1	1	1/1	
<b>Liquid Scintillation Counting</b>											
H	SOLID	Tritium in Solids	7211-175	10.0	9			1	1	1/1	
NI_L	SOLID	Nickel 63 in Solids	7211-175	11.2	9			1	1	1/1	

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.

### PREP BATCH SUMMARY

Page 1

### SUMMARY DATA SECTION

Page 5

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-PBS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

Page 9 of 66

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

SDG <u>7863</u>
Contact <u>N. Joseph Verville</u>

## LAB WORK SUMMARY

Client <u>CHPRC</u>
Contract No. <u>33677</u>
Case no <u>SDG H4026</u>

LAB SAMPLE	CLIENT SAMPLE ID		MATRIX	PLANCHET	TEST	SUF-	FIX	ANALYZED	REVIEWED	BY	METHOD
COLLECTED	LOCATION										
RECEIVED	CUSTODY	SAF No									
R907138-01	B210X2			7863-001	AM		08/05/09	08/06/09	BW	Americium 241 in Solids	
07/23/09	UPR-200-N1;C7475;I-RZ	SOLID		7863-001	GAM		08/03/09	08/06/09	BW	Gamma Scan	
07/31/09	R9-017-320	R09-017		7863-001	H		08/04/09	08/05/09	BW	Tritium in Solids	
				7863-001	NI_L		08/05/09	08/06/09	BW	Nickel 63 in Solids	
				7863-001	PU		08/05/09	08/06/09	BW	Plutonium, Isotopic in Solids	
				7863-001	SR		08/03/09	08/05/09	BW	Total Strontium in Solids	
				7863-001	TC		08/05/09	08/07/09	BW	Technetium 99 in Solids	
				7863-001	TH		08/05/09	08/06/09	BW	Thorium, Isotopic in Solids	
				7863-001	U		08/04/09	08/05/09	BW	Uranium, Isotopic in Solids	
R907138-02	B210X3			7863-002	AM	R1	08/06/09	08/06/09	BW	Americium 241 in Solids	
07/23/09	UPR-200-N1;C7475;I-TD	SOLID		7863-002	GAM		08/03/09	08/06/09	BW	Gamma Scan	
07/31/09	R9-017-321	R09-017		7863-002	H		08/04/09	08/05/09	BW	Tritium in Solids	
				7863-002	NI_L		08/05/09	08/06/09	BW	Nickel 63 in Solids	
				7863-002	PU		08/05/09	08/06/09	BW	Plutonium, Isotopic in Solids	
				7863-002	SR		08/03/09	08/05/09	BW	Total Strontium in Solids	
				7863-002	TC		08/04/09	08/07/09	BW	Technetium 99 in Solids	
				7863-002	TH		08/05/09	08/06/09	BW	Thorium, Isotopic in Solids	
				7863-002	U		08/04/09	08/05/09	BW	Uranium, Isotopic in Solids	
R907138-03	B210X8			7863-003	AM	R1	08/06/09	08/06/09	BW	Americium 241 in Solids	
07/21/09	UPR-200-N1;C7474;I-TD	SOLID		7863-003	GAM		08/03/09	08/06/09	BW	Gamma Scan	
07/31/09	R9-017-326	R09-017		7863-003	H		08/04/09	08/05/09	BW	Tritium in Solids	
				7863-003	NI_L		08/05/09	08/06/09	BW	Nickel 63 in Solids	
				7863-003	PU		08/05/09	08/06/09	BW	Plutonium, Isotopic in Solids	
				7863-003	SR		08/03/09	08/05/09	BW	Total Strontium in Solids	
				7863-003	TC		08/04/09	08/07/09	BW	Technetium 99 in Solids	
				7863-003	TH		08/05/09	08/06/09	BW	Thorium, Isotopic in Solids	
				7863-003	U		08/04/09	08/05/09	BW	Uranium, Isotopic in Solids	
R907138-04	B21106			7863-004	AM	R1	08/06/09	08/06/09	BW	Americium 241 in Solids	
07/21/09	UPR-200-N1;C7474;I-RZD	SOLID		7863-004	GAM		08/03/09	08/06/09	BW	Gamma Scan	
07/31/09	R9-017-336	R09-017		7863-004	H		08/04/09	08/05/09	BW	Tritium in Solids	
				7863-004	NI_L		08/05/09	08/06/09	BW	Nickel 63 in Solids	
				7863-004	PU		08/05/09	08/06/09	BW	Plutonium, Isotopic in Solids	
				7863-004	SR		08/03/09	08/05/09	BW	Total Strontium in Solids	
				7863-004	TC		08/04/09	08/07/09	BW	Technetium 99 in Solids	
				7863-004	TH		08/05/09	08/06/09	BW	Thorium, Isotopic in Solids	
				7863-004	U		08/04/09	08/05/09	BW	Uranium, Isotopic in Solids	

### WORK SUMMARY

Page 1

### SUMMARY DATA SECTION

Page 6

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LWS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

SDG <u>7863</u>
Contact <u>N. Joseph Verville</u>

## WORK SUMMARY, cont.

Client <u>CHPRC</u>
Contract No. <u>33677</u>
Case no <u>SDG H4026</u>

LAB SAMPLE	CLIENT SAMPLE ID	MATRIX	PLANCHET	TEST	SUF-	FIX	ANALYZED	REVIEWED	BY	METHOD
COLLECTED	LOCATION	SAF NO								
RECEIVED	CUSTODY									
R907138-05	B21C94		7863-005	H		08/04/09	08/05/09	BW		Tritium in Solids
07/23/09	UPR-N1,C7493;I-001	SOLID	7863-005	NI_L		08/05/09	08/06/09	BW		Nickel 63 in Solids
07/31/09	R9-017-390	R09-017	7863-005	TH		08/10/09	08/11/09	MWT		Thorium, Isotopic in Solids
R907138-06	B21C96		7863-006	H		08/04/09	08/05/09	BW		Tritium in Solids
07/23/09	UPR-N1,C7493;I-001D	SOLID	7863-006	NI_L		08/05/09	08/06/09	BW		Nickel 63 in Solids
07/31/09	R9-017-393	R09-017	7863-006	TH		08/10/09	08/11/09	MWT		Thorium, Isotopic in Solids
R907138-07	B21C98		7863-007	H		08/04/09	08/05/09	BW		Tritium in Solids
07/23/09	UPR-N1,C7493;I-002	SOLID	7863-007	NI_L		08/05/09	08/06/09	BW		Nickel 63 in Solids
07/31/09	R9-017-396	R09-017	7863-007	TH		08/10/09	08/11/09	MWT		Thorium, Isotopic in Solids
R907138-08	B21CB0		7863-008	H		08/04/09	08/05/09	BW		Tritium in Solids
07/23/09	UPR-N1,C7493;I-003 (15)	SOLID	7863-008	NI_L		08/05/09	08/06/09	BW		Nickel 63 in Solids
07/31/09	R9-017-399	R09-017	7863-008	TH		08/10/09	08/11/09	MWT		Thorium, Isotopic in Solids
R907138-09	B21CB2		7863-009	H		08/04/09	08/05/09	BW		Tritium in Solids
07/23/09	UPR-N1,C7493;I-004 (15)	SOLID	7863-009	NI_L		08/05/09	08/06/09	BW		Nickel 63 in Solids
07/31/09	R9-017-402	R09-017	7863-009	TH		08/10/09	08/11/09	MWT		Thorium, Isotopic in Solids
R907138-10	Lab Control Sample		7863-010	AM		08/05/09	08/06/09	BW		Americium 241 in Solids
		SOLID	7863-010	GAM		08/03/09	08/06/09	BW		Gamma Scan
		R09-017	7863-010	H		08/04/09	08/05/09	BW		Tritium in Solids
			7863-010	NI_L		08/05/09	08/06/09	BW		Nickel 63 in Solids
			7863-010	PU		08/05/09	08/06/09	BW		Plutonium, Isotopic in Solids
			7863-010	SR		08/03/09	08/05/09	BW		Total Strontium in Solids
			7863-010	TC		08/04/09	08/07/09	BW		Technetium 99 in Solids
			7863-010	TH		08/05/09	08/06/09	BW		Thorium, Isotopic in Solids
			7863-010	U		08/04/09	08/05/09	BW		Uranium, Isotopic in Solids
R907138-11	Method Blank		7863-011	AM	R1	08/06/09	08/06/09	BW		Americium 241 in Solids
		SOLID	7863-011	GAM		08/03/09	08/06/09	BW		Gamma Scan
		R09-017	7863-011	H		08/04/09	08/05/09	BW		Tritium in Solids
			7863-011	NI_L		08/05/09	08/06/09	BW		Nickel 63 in Solids
			7863-011	PU		08/05/09	08/06/09	BW		Plutonium, Isotopic in Solids
			7863-011	SR		08/03/09	08/05/09	BW		Total Strontium in Solids
			7863-011	TC		08/05/09	08/07/09	BW		Technetium 99 in Solids
			7863-011	TH		08/05/09	08/06/09	BW		Thorium, Isotopic in Solids
			7863-011	U		08/04/09	08/05/09	BW		Uranium, Isotopic in Solids

### WORK SUMMARY

Page 2

### SUMMARY DATA SECTION

Page 7

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LWS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

SDG 7863
Contact N. Joseph Verville

## WORK SUMMARY, cont.

Client CHPRC
Contract No. 33677
Case no SDG H4026

LAB SAMPLE	CLIENT SAMPLE ID								
COLLECTED	LOCATION	MATRIX			SUF-				
RECEIVED	CUSTODY	SAF No	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD
R907138-12	Duplicate (R907138-04)		7863-012	AM		08/05/09	08/06/09	BW	Americium 241 in Solids
07/21/09	UPR-200-N1;C7474;I-RZD	SOLID	7863-012	GAM		08/03/09	08/06/09	BW	Gamma Scan
07/31/09	R09-017		7863-012	H		08/04/09	08/05/09	BW	Tritium in Solids
			7863-012	NI_L		08/05/09	08/06/09	BW	Nickel 63 in Solids
			7863-012	PU		08/05/09	08/06/09	BW	Plutonium, Isotopic in Solids
			7863-012	SR		08/03/09	08/05/09	BW	Total Strontium in Solids
			7863-012	TC		08/04/09	08/07/09	BW	Technetium 99 in Solids
			7863-012	TH		08/05/09	08/06/09	BW	Thorium, Isotopic in Solids
			7863-012	U		08/04/09	08/05/09	BW	Uranium, Isotopic in Solids
R907138-13	Lab Control Sample		7863-013	TH		08/10/09	08/11/09	MWT	Thorium, Isotopic in Solids
		SOLID							
		R09-017							
R907138-14	Method Blank		7863-014	TH		08/10/09	08/11/09	MWT	Thorium, Isotopic in Solids
		SOLID							
		R09-017							
R907138-15	Duplicate (R907138-05)		7863-015	TH		08/10/09	08/11/09	MWT	Thorium, Isotopic in Solids
07/23/09	UPR-N1,C7493;I-001	SOLID							
07/31/09	R09-017								

### COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
AM	R09-017	Americium 241 in Solids	AMCMISO_IE_PLATE_AEA	4			1	1	1		7
GAM	R09-017	Gamma Scan	GAMMA_GS	4			1	1	1		7
H	R09-017	Tritium in Solids	TRITIUM_COX_LSC	9			1	1	1		12
NI_L	R09-017	Nickel 63 in Solids	NI63_LSC	9			1	1	1		12
PU	R09-017	Plutonium, Isotopic in Solids	PUISO_PLATE_AEA	4			1	1	1		7
SR	R09-017	Total Strontium in Solids	SRTOT_SEP_PRECIP_GPC	4			1	1	1		7
TC	R09-017	Technetium 99 in Solids	TC99_TR_SEP_GPC	4			1	1	1		7
TH	R09-017	Thorium, Isotopic in Solids	THISO_IE_PLATE_AEA	9			2	2	2		15
U	R09-017	Uranium, Isotopic in Solids	UIISO_PLATE_AEA	4			1	1	1		7
<b>TOTALS</b>				51			10	10	10		81

#### WORK SUMMARY

Page 3

#### SUMMARY DATA SECTION

Page 8

Lab id EBRINE
Protocol CHPRC
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
 SAMPLE DELIVERY GROUP H4026

7863-011

Method Blank

**M E T H O D   B L A N K**

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4026</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>R907138-11</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7863-011</u>	Material/Matrix <u></u>	<u>SOLID</u>
	SAF No <u>R09-017</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	-0.725	4.3	7.56	400	U	H
Nickel 63	13981-37-8	-0.353	1.7	2.92	30.0	U	NI_L
Total Strontium	SR-RAD	0.050	0.16	0.320	1.00	U	SR
Technetium 99	14133-76-7	-0.015	0.16	0.462	15.0	U	TC
Thorium 228	14274-82-9	0.033	0.13	0.256	1.00	U	TH
Thorium 230	14269-63-7	-0.033	0.27	0.615	1.00	U	TH
Thorium 232	TH-232	0.033	0.067	0.255	1.00	U	TH
Uranium 233/234	U-233/234	0.029	0.058	0.223	1.00	U	U
Uranium 235	15117-96-1	0	0.071	0.270	1.00	U	U
Uranium 238	U-238	0	0.058	0.223	1.00	U	U
Americium 241	14596-10-2	-0.095	0.095	0.455	1.00	U	AM
Plutonium 238	13981-16-3	0	0.072	0.172	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.036	0.137	1.00	U	PU
Beryllium 7	13966-02-4	U		0.464		U	GAM
Potassium 40	13966-00-2	U		2.13		U	GAM
Cobalt 60	10198-40-0	U		<u>0.077</u>	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.622		U	GAM
Antimony 125	14234-35-6	U		0.149		U	GAM
Cesium 134	13967-70-9	U		0.084		U	GAM
Cesium 137	10045-97-3	U		0.070	0.100	U	GAM
Europium 152	14683-23-9	U		<u>0.190</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.228</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.156</u>	0.100	U	GAM
Niobium 94	14681-63-1	U		0.063		U	GAM
Radium 226	13982-63-3	U		0.153		U	GAM
Radium 228	15262-20-1	U		0.313		U	GAM

ARRA 200-CW-3 - Soil Sampling

**METHOD BLANKS**

Page 1

**SUMMARY DATA SECTION**

Page 9

Lab id <u>EERLINE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

E B E R L I N E   S E R V I C E S / R I C H M O N D  
SAMPLE DELIVERY GROUP H4026

7863-011

Method Blank

B L A N K ,   c o n t .

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4026</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>R907138-11</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7863-011</u>	Material/Matrix <u></u>	<u>SOLID</u>
	SAF No <u>R09-017</u>	

QC-BLANK #70498

METHOD BLANKS

Page 2

SUMMARY DATA SECTION

Page 10

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

7863-014

Method Blank

**M E T H O D   B L A N K**

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4026</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>R907138-14</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7863-014</u>	Material/Matrix <u></u>	<u>SOLID</u>
	SAF No <u>R09-017</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	-0.035	0.070	0.267	1.00	U	TH
Thorium 230	14269-63-7	-0.035	0.28	0.641	1.00	U	TH
Thorium 232	TH-232	0	0.070	0.266	1.00	U	TH

ARRA 200-CW-3 - Soil Sampling

QC-BLANK #70550

**METHOD BLANKS**

Page 3

**SUMMARY DATA SECTION**

Page 11

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-DS  
Version 3.06  
Report date 08/11/09

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

7863-010

Lab Control Sample

## LAB CONTROL SAMPLE

SDG 7863  
Contact N. Joseph Verville

Client/Case no CHPRC SDG H4026  
Contract No. 33677

Lab sample id R907138-10  
Dept sample id 7863-010

Client sample id Lab Control Sample  
Material/Matrix SOLID  
SAF No R09-017

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMITS (TOTAL)	PROTOCOL LIMITS
Tritium	1030	23	7.44	400	H		1150	46	90	85-115	80-120
Nickel 63	195	5.6	2.96	30.0	NI_L		220	8.8	89	83-117	80-120
Total Strontium	10.5	0.62	0.282	1.00	SR		9.07	0.36	116	78-122	80-120
Technetium 99	122	1.9	0.497	15.0	TC		109	4.4	112	77-123	80-120
Thorium 230	18.4	2.1	0.639	1.00	TH		18.9	0.76	97	79-121	80-120
Uranium 233/234	9.38	1.3	0.674	1.00	U		9.28	0.37	101	75-125	80-120
Uranium 235	6.99	1.1	0.242	1.00	U		7.54	0.30	93	75-125	80-120
Uranium 238	9.54	1.3	0.648	1.00	U		10.1	0.40	94	77-123	80-120
Americium 241	4.28	0.91	0.459	1.00	AM		5.08	0.20	84	71-129	80-120
Plutonium 238	4.97	0.70	0.176	1.00	PU		5.80	0.23	86	78-122	80-120
Plutonium 239/240	6.55	0.81	0.141	1.00	PU		6.60	0.26	99	77-123	80-120
Cobalt 60	0.956	0.086	0.040	0.050	GAM		0.974	0.039	98	82-118	80-120
Cesium 137	1.28	0.086	0.053	0.100	GAM		1.20	0.048	107	83-117	80-120

ARRA 200-CW-3 - Soil Sampling

QC-LCS #70497

### LAB CONTROL SAMPLES

Page 1

### SUMMARY DATA SECTION

Page 12

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

**EBERLINE SERVICES/RICHMOND**

SAMPLE DELIVERY GROUP H4026

7863-013

Lab Control Sample

**LAB CONTROL SAMPLE**SDG 7863Client/Case no CHPRC SDG H4026Contact N. Joseph VervilleContract No. 33677Lab sample id R907138-13Client sample id Lab Control SampleDept sample id 7863-013Material/Matrix SOLIDSAF No R09-017

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	ADDED TEST	2σ ERR pCi/g	REC %	3σ LMITS (TOTAL)	PROTOCOL LIMITS
Thorium 230	17.3	1.9	0.593	1.00		TH	18.9	0.76	92	80-120 80-120

ARRA 200-CW-3 - Soil Sampling

QC-LCS #70549

**LAB CONTROL SAMPLES**

Page 2

**SUMMARY DATA SECTION**

Page 13

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-LCS  
Version 3.06  
Report date 08/11/09

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

7863-012

B21106

## DUPLICATE

<u>SDG 7863</u>	<u>Client/Case no CHPRC</u>	<u>SDG H4026</u>
<u>Contact N. Joseph Verville</u>	<u>Contract No. 33677</u>	
<b>DUPLICATE</b>		
	<b>ORIGINAL</b>	
Lab sample id <u>R907138-12</u>	Lab sample id <u>R907138-04</u>	Client sample id <u>B21106</u>
Dept sample id <u>7863-012</u>	Dept sample id <u>7863-004</u>	Location/Matrix <u>UPR-200-N1;C7474;I-RZD</u> <u>SOLID</u>
% solids <u>95.8</u>	Received <u>07/31/09</u>	Collected/Weight <u>07/21/09 10:48</u> <u>856 g</u>
	% solids <u>95.8</u>	Custody/SAF No <u>R9-017-336</u> <u>R09-017</u>

ANALYTE	DUPLICATE	2 $\sigma$ ERR	MDA	RDL	QUALI-	ORIGINAL	2 $\sigma$ ERR	MDA	QUALI-	RPD	2 $\sigma$	PROT
	pCi/g	(COUNT)	pCi/g	pCi/g	FIERS	TEST	pCi/g	(COUNT)	pCi/g	FIERS	%	TOT LIMIT
Tritium	0.421	3.8	6.58	400	U	H	1.30	3.7	6.23	U	-	
Nickel 63	0.121	2.0	3.34	30.0	U	NI_L	0.288	2.0	3.41	U	-	
Total Strontium	0.051	0.15	0.298	1.00	U	SR	-0.037	0.21	0.399	U	-	
Technetium 99	-0.111	0.18	0.466	15.0	U	TC	0.043	0.17	0.454	U	-	
Thorium 228	0.347	0.28	0.464	1.00	U	TH	0.432	0.25	0.341		22	97 35
Thorium 230	-0.138	0.28	0.638	1.00	U	TH	0	0.31	0.590	U	-	
Thorium 232	0.173	0.14	0.265	1.00	U	TH	0.401	0.25	0.236		79	101 35
Uranium 233/234	0.475	0.23	0.214	1.00		U	0.654	0.31	0.294		32	69 35
Uranium 235	0	0.068	0.259	1.00	U	U	0.047	0.093	0.356	U	-	
Uranium 238	0.391	0.23	0.214	1.00		U	0.385	0.23	0.294		2	85 35
Americium 241	0	0.17	0.471	1.00	U	AM	-0.123	0.083	0.453	U	-	
Plutonium 238	-0.043	0.13	0.289	1.00	U	PU	0	0.083	0.316	U	-	
Plutonium 239/240	0.022	0.043	0.165	1.00	U	PU	0	0.083	0.316	U	-	
Beryllium 7	U		0.180		U	GAM	U		0.339	U	-	
Potassium 40	12.3	0.61	0.301			GAM	11.3	0.91	0.372		8	14 35
Cobalt 60	U		0.027	0.050	U	GAM	U		0.044	U	-	
Ruthenium 106	U		0.192		U	GAM	U		0.388	U	-	
Antimony 125	U		0.056		U	GAM	U		0.103	U	-	
Cesium 134	U		0.034		U	GAM	U		0.056	U	-	
Cesium 137	U		0.023	0.100	U	GAM	U		0.043	U	-	
Europium 152	U		0.057	0.100	U	GAM	U		0.118	U	-	
Europium 154	U		0.096	0.100	U	GAM	U		0.174	U	-	
Europium 155	U		0.134	0.100	U	GAM	U		0.126	U	-	
Niobium 94	U		0.024		U	GAM	U		0.037	U	-	
Radium 226	0.420	0.051	0.046			GAM	0.443	0.093	0.094		5	26 35
Radium 228	0.665	0.11	0.107			GAM	0.689	0.19	0.186		4	34 35

ARRA 200-CW-3 - Soil Sampling

### DUPLICATES

Page 1

### SUMMARY DATA SECTION

Page 14

Lab id <u>EBERLINE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

**EBERLINE SERVICES/RICHMOND**

SAMPLE DELIVERY GROUP H4026

7863-012

B21106

**DUPLICATE, cont.**SDG 7863Contact N. Joseph Verville**DUPLICATE**Lab sample id R907138-12Dept sample id 7863-012% solids 95.8Client/Case no CHPRCSDG H4026Contract No. 33677**ORIGINAL**Lab sample id R907138-04Dept sample id 7863-004Received 07/31/09% solids 95.8Client sample id B21106Location/Matrix UPR-200-N1;C7474;I-RZD SOLIDCollected/Weight 07/21/09 10:48 856 gCustody/SAF No R9-017-336 R09-017

QC-DUP#4 70499

**DUPLICATES**

Page 2

**SUMMARY DATA SECTION**

Page 15

Lab id	<u>EBRLNE</u>
Protocol	<u>CHPRC</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-DUP</u>
Version	<u>3.06</u>
Report date	<u>08/11/09</u>

**EBERLINE SERVICES/RICHMOND**

SAMPLE DELIVERY GROUP H4026

7863-015

B21C94

**DUPLICATE**

SDG 7863

Contact N. Joseph Verville

**DUPLICATE**

Lab sample id R907138-15

Dept sample id 7863-015

**ORIGINAL**

Lab sample id R907138-05

Dept sample id 7863-005

Received 07/31/09

% solids 95.3

Client/Case no CHPRC

SDG H4026

Contract No. 33677

Client sample id B21C94

Location/Matrix UPR-N1,C7493;I-001 SOLID

Collected/Weight 07/23/09 11:57 205 g

Custody/SAF No R9-017-390 R09-017

ANALYTE	DUPLICATE	2σ ERR	MDA	RDL	QUALI-	ORIGINAL	2σ ERR	MDA	QUALI-	RPD	2σ	PROT
	pCi/g	(COUNT)	pCi/g	pCi/g	FIERS	TEST	pCi/g	(COUNT)	pCi/g	FIERS	%	TOT LIMIT
Thorium 228	0.258	0.19	0.309	1.00	U	TH	0.413	0.30	0.360	46	106	35
Thorium 230	-0.161	0.32	0.636	1.00	U	TH	0	0.37	0.690	U	-	
Thorium 232	0.418	0.26	0.246	1.00		TH	0.524	0.30	0.286	23	85	35

ARRA 200-CW-3 - Soil Sampling

QC-DUP#5 70551

DUPPLICATES

Page 3

SUMMARY DATA SECTION

Page 16

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

7863-001

B210X2

**D A T A   S H E E T**

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4026</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>R907138-01</u>	Client sample id <u>B210X2</u>	
Dept sample id <u>7863-001</u>	Location/Matrix <u>UPR-200-N1;C7475;I-RZ</u>	<u>SOLID</u>
Received <u>07/31/09</u>	Collected/Weight <u>07/23/09 08:45</u>	<u>754 g</u>
% solids <u>95.8</u>	Custody/SAF No <u>R9-017-320</u>	<u>R09-017</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	-1.44	4.3	7.51	400	U	H
Nickel 63	13981-37-8	1.92	2.1	3.39	30.0	U	NI_L
Total Strontium	SR-RAD	0.096	0.16	0.305	1.00	U	SR
Technetium 99	14133-76-7	0.013	0.18	0.512	15.0	U	TC
Thorium 228	14274-82-9	0.430	0.36	0.480	1.00	U	TH
Thorium 230	14269-63-7	-0.036	0.29	0.659	1.00	U	TH
Thorium 232	TH-232	0.358	0.22	0.274	1.00		TH
Uranium 233/234	U-233/234	0.419	0.26	0.247	1.00		U
Uranium 235	15117-96-1	0.039	0.078	0.299	1.00	U	U
Uranium 238	U-238	0.355	0.20	0.247	1.00		U
Americium 241	14596-10-2	0.058	0.23	0.551	1.00	U	AM
Plutonium 238	13981-16-3	-0.039	0.078	0.297	1.00	U	PU
Plutonium 239/240	PU-239/240	0.039	0.078	0.297	1.00	U	PU
Beryllium 7	13966-02-4	U		0.490		U	GAM
Potassium 40	13966-00-2	10.4	1.2	0.649			GAM
Cobalt 60	10198-40-0	U		0.067	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.524		U	GAM
Antimony 125	14234-35-6	U		0.146		U	GAM
Cesium 134	13967-70-9	U		0.088		U	GAM
Cesium 137	10045-97-3	U		0.056	0.100	U	GAM
Europium 152	14683-23-9	U		0.148	0.100	U	GAM
Europium 154	15585-10-1	U		0.219	0.100	U	GAM
Europium 155	14391-16-3	U		0.122	0.100	U	GAM
Niobium 94	14681-63-1	U		0.056		U	GAM
Radium 226	13982-63-3	0.272	0.12	0.135			GAM
Radium 228	15262-20-1	0.566	0.22	0.230			GAM

ARRA 200-CW-3 - Soil Sampling

**DATA SHEETS**  
Page 1  
**SUMMARY DATA SECTION**  
Page 17

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>
Page 21 of 66

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

7863-002

B210X3

**D A T A   S H E E T**

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4026</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>R907138-02</u>	Client sample id <u>B210X3</u>	
Dept sample id <u>7863-002</u>	Location/Matrix <u>UPR-200-N1;C7475;I-TD</u>	<u>SOLID</u>
Received <u>07/31/09</u>	Collected/Weight <u>07/23/09 08:55</u>	<u>795 g</u>
% solids <u>95.0</u>	Custody/SAF No <u>R9-017-321</u>	<u>R09-017</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	<u>-4.02</u>	3.7	6.79	400	U	H
Nickel 63	13981-37-8	1.10	2.1	3.51	30.0	U	NI_L
Total Strontium	SR-RAD	0.153	0.20	0.387	1.00	U	SR
Technetium 99	14133-76-7	0.091	0.17	0.448	15.0	U	TC
Thorium 228	14274-82-9	0.463	0.29	0.341	1.00		TH
Thorium 230	14269-63-7	-0.142	0.28	0.679	1.00	U	TH
Thorium 232	TH-232	0.462	0.29	0.272	1.00		TH
Uranium 233/234	U-233/234	0.315	0.24	0.301	1.00		U
Uranium 235	15117-96-1	0.048	0.095	0.364	1.00	U	U
Uranium 238	U-238	0.551	0.32	0.301	1.00		U
Americium 241	14596-10-2	0.035	0.14	0.339	1.00	U	AM
Plutonium 238	13981-16-3	0.066	0.13	0.253	1.00	U	PU
Plutonium 239/240	PU-239/240	-0.033	0.066	0.253	1.00	U	PU
Beryllium 7	13966-02-4	U		0.485		U	GAM
Potassium 40	13966-00-2	9.72	1.2	0.655			GAM
Cobalt 60	10198-40-0	U		<u>0.068</u>	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.531		U	GAM
Antimony 125	14234-35-6	U		0.144		U	GAM
Cesium 134	13967-70-9	U		0.087		U	GAM
Cesium 137	10045-97-3	U		0.069	0.100	U	GAM
Europium 152	14683-23-9	U		<u>0.177</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.227</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.132</u>	0.100	U	GAM
Niobium 94	14681-63-1	U		0.062		U	GAM
Radium 226	13982-63-3	0.411	0.11	0.117			GAM
Radium 228	15262-20-1	0.466	0.23	0.280			GAM

ARRA 200-CW-3 - Soil Sampling

**DATA SHEETS**  
Page 2  
**SUMMARY DATA SECTION**  
Page 18

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>
Page 22 of 66

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

7863-003

B210X8

**D A T A   S H E E T**

SDG <u>7863</u> Contact <u>N. Joseph Verville</u>	Client/Case no <u>CHPRC</u> Contract No. <u>33677</u>	SDG <u>H4026</u>
Lab sample id <u>R907138-03</u> Dept sample id <u>7863-003</u> Received <u>07/31/09</u> % solids <u>95.5</u>	Client sample id <u>B210X8</u> Location/Matrix <u>UPR-200-N1;C7474;I-TD</u> <u>SOLID</u> Collected/Weight <u>07/21/09 10:55</u> <u>858 g</u> Custody/SAF No <u>R9-017-326</u> <u>R09-017</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	-1.58	4.3	7.63	400	U	H
Nickel 63	13981-37-8	-0.281	1.9	3.32	30.0	U	NI_L
Total Strontium	SR-RAD	-0.008	0.16	0.322	1.00	U	SR
Technetium 99	14133-76-7	-0.137	0.14	0.447	15.0	U	TC
Thorium 228	14274-82-9	0.115	0.23	0.386	1.00	U	TH
Thorium 230	14269-63-7	-0.086	0.29	0.568	1.00	U	TH
Thorium 232	TH-232	0.230	0.17	0.220	1.00		TH
Uranium 233/234	U-233/234	0.687	0.33	0.250	1.00		U
Uranium 235	15117-96-1	0	0.079	0.303	1.00	U	U
Uranium 238	U-238	0.687	0.33	0.250	1.00		U
Americium 241	14596-10-2	-0.038	0.077	0.368	1.00	U	AM
Plutonium 238	13981-16-3	0.032	0.13	0.309	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.065	0.247	1.00	U	PU
Beryllium 7	13966-02-4	U		0.173		U	GAM
Potassium 40	13966-00-2	11.1	0.59	0.271			GAM
Cobalt 60	10198-40-0	U		0.025	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.179		U	GAM
Antimony 125	14234-35-6	U		0.049		U	GAM
Cesium 134	13967-70-9	U		0.035		U	GAM
Cesium 137	10045-97-3	U		0.021	0.100	U	GAM
Europium 152	14683-23-9	U		0.053	0.100	U	GAM
Europium 154	15585-10-1	U		0.090	0.100	U	GAM
Europium 155	14391-16-3	U		0.064	0.100	U	GAM
Niobium 94	14681-63-1	U		0.022		U	GAM
Radium 226	13982-63-3	0.381	0.048	0.046			GAM
Radium 228	15262-20-1	0.629	0.11	0.109			GAM

ARRA 200-CW-3 - Soil Sampling

**DATA SHEETS**  
Page 3  
**SUMMARY DATA SECTION**  
Page 19

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>
Page 23 of 66

**EBERLINE SERVICES / RICHMOND**  
**SAMPLE DELIVERY GROUP H4026**

7863-004

B21106

**DATA SHEET**

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4026</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>R907138-04</u>	Client sample id <u>B21106</u>	
Dept sample id <u>7863-004</u>	Location/Matrix <u>UPR-200-N1;C7474;I-RZD</u>	<u>SOLID</u>
Received <u>07/31/09</u>	Collected/Weight <u>07/21/09 10:48</u>	<u>856 g</u>
% solids <u>95.8</u>	Custody/SAF No <u>R9-017-336</u>	<u>R09-017</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	1.30	3.7	6.23	400	U	H
Nickel 63	13981-37-8	0.288	2.0	3.41	30.0	U	NI_L
Total Strontium	SR-RAD	-0.037	0.21	0.399	1.00	U	SR
Technetium 99	14133-76-7	0.043	0.17	0.454	15.0	U	TC
Thorium 228	14274-82-9	0.432	0.25	0.341	1.00		TH
Thorium 230	14269-63-7	0	0.31	0.590	1.00	U	TH
Thorium 232	TH-232	0.401	0.25	0.236	1.00		TH
Uranium 233/234	U-233/234	0.654	0.31	0.294	1.00		U
Uranium 235	15117-96-1	0.047	0.093	0.356	1.00	U	U
Uranium 238	U-238	0.385	0.23	0.294	1.00		U
Americium 241	14596-10-2	<u>-0.123</u>	0.083	0.453	1.00	U	AM
Plutonium 238	13981-16-3	0	0.083	0.316	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.083	0.316	1.00	U	PU
Beryllium 7	13966-02-4	U		0.339		U	GAM
Potassium 40	13966-00-2	11.3	0.91	0.372			GAM
Cobalt 60	10198-40-0	U		0.044	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.388		U	GAM
Antimony 125	14234-35-6	U		0.103		U	GAM
Cesium 134	13967-70-9	U		0.056		U	GAM
Cesium 137	10045-97-3	U		0.043	0.100	U	GAM
Europium 152	14683-23-9	U		<u>0.118</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.174</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.126</u>	0.100	U	GAM
Niobium 94	14681-63-1	U		0.037		U	GAM
Radium 226	13982-63-3	0.443	0.093	0.094			GAM
Radium 228	15262-20-1	0.689	0.19	0.186			GAM

ARRA 200-CW-3 - Soil Sampling

**DATA SHEETS**  
Page 4  
**SUMMARY DATA SECTION**  
Page 20

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>
Page 24 of 66

EBERLINE SERVICES / RICHMOND  
SAMPLE DELIVERY GROUP H4026

7863-005

B21C94

DATA SHEET

SDG 7863	Client/Case no CHPRC	SDG H4026
Contact N. Joseph Verville	Contract No. 33677	
Lab sample id R907138-05	Client sample id B21C94	
Dept sample id 7863-005	Location/Matrix UPR-N1,C7493;I-001	SOLID
Received 07/31/09	Collected/Weight 07/23/09 11:57	205 g
% solids 95.3	Custody/SAF No R9-017-390	R09-017

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	-0.505	3.6	6.32	400	U	H
Nickel 63	13981-37-8	-0.240	1.9	3.31	30.0	U	NI_L
Thorium 228	14274-82-9	0.413	0.30	0.360	1.00		TH
Thorium 230	14269-63-7	0	0.37	0.690	1.00	U	TH
Thorium 232	TH-232	0.524	0.30	0.286	1.00		TH

ARRA 200-CW-3 - Soil Sampling

DATA SHEETS  
Page 5  
SUMMARY DATA SECTION  
Page 21

Lab id EBRNLNE
Protocol CHPRC
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 08/11/09
Page 25 of 66

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

7863-006

B21C96

**D A T A   S H E E T**

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4026</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>R907138-06</u>	Client sample id <u>B21C96</u>	
Dept sample id <u>7863-006</u>	Location/Matrix <u>UPR-N1,C7493;I-001D</u>	<u>SOLID</u>
Received <u>07/31/09</u>	Collected/Weight <u>07/23/09 11:57</u>	<u>206 q</u>
% solids <u>94.2</u>	Custody/SAF No <u>R9-017-393</u>	<u>R09-017</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	1.38	4.2	7.20	400	U	H
Nickel 63	13981-37-8	1.21	2.1	3.45	30.0	U	NI_L
Thorium 228	14274-82-9	0.694	0.35	0.332	1.00		TH
Thorium 230	14269-63-7	0.415	0.42	0.662	1.00	U	TH
Thorium 232	TH-232	0.485	0.28	0.265	1.00		TH

ARRA 200-CW-3 - Soil Sampling

**DATA SHEETS**  
Page 6  
**SUMMARY DATA SECTION**  
Page 22

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

Page 26 of 66

EBERLINE SERVICES / RICHMOND  
SAMPLE DELIVERY GROUP H4026

7863-007

B21C98

DATA SHEET

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4026</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>R907138-07</u>	Client sample id <u>B21C98</u>	
Dept sample id <u>7863-007</u>	Location/Matrix <u>UPR-N1,C7493;I-002</u>	<u>SOLID</u>
Received <u>07/31/09</u>	Collected/Weight <u>07/23/09 13:10</u>	<u>237 g</u>
% solids <u>96.6</u>	Custody/SAF No <u>R9-017-396</u>	<u>R09-017</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	-1.50	4.1	7.24	400	U	H
Nickel 63	13981-37-8	0.896	2.0	3.38	30.0	U	NI_L
Thorium 228	14274-82-9	0.562	0.35	0.432	1.00		TH
Thorium 230	14269-63-7	-0.070	0.28	0.645	1.00	U	TH
Thorium 232	TH-232	0.560	0.28	0.268	1.00		TH

ARRA 200-CW-3 - Soil Sampling

DATA SHEETS  
Page 7  
SUMMARY DATA SECTION  
Page 23

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>
<b>Page 27 of 66</b>

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

7863-008

B21CB0

**D A T A   S H E E T**

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4026</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>R907138-08</u>	Client sample id <u>B21CB0</u>	
Dept sample id <u>7863-008</u>	Location/Matrix <u>UPR-N1,C7493:I-003 (15)</u>	<u>SOLID</u>
Received <u>07/31/09</u>	Collected/Weight <u>07/23/09 13:22</u>	<u>220 g</u>
% solids <u>95.5</u>	Custody/SAF No <u>R9-017-399</u>	<u>R09-017</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	-1.54	4.2	7.40	400	U	H
Nickel 63	13981-37-8	1.40	2.1	3.42	30.0	U	NI_L
Thorium 228	14274-82-9	0.489	0.33	0.360	1.00		TH
Thorium 230	14269-63-7	0.130	0.39	0.621	1.00	U	TH
Thorium 232	TH-232	0.423	0.26	0.249	1.00		TH

ARRA 200-CW-3 - Soil Sampling

**DATA SHEETS**  
 Page 8  
**SUMMARY DATA SECTION**  
 Page 24

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>
<b>Page 28 of 66</b>

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

7863-009

B21CB2

**D A T A   S H E E T**

SDG <u>7863</u>	Client/Case no <u>CHPRC</u>	<u>SDG_H4026</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>R907138-09</u>	Client sample id <u>B21CB2</u>	
Dept sample id <u>7863-009</u>	Location/Matrix <u>UPR-N1,C7493;I-004 (15)</u>	<u>SOLID</u>
Received <u>07/31/09</u>	Collected/Weight <u>07/23/09 13:30</u>	<u>211 g</u>
% solids <u>95.2</u>	Custody/SAF No <u>R9-017-402</u>	<u>R09-017</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	-1.79	4.0	7.00	400	U	H
Nickel 63	13981-37-8	1.54	2.0	3.36	30.0	U	NI_L
Thorium 228	14274-82-9	0.299	0.26	0.409	1.00	U	TH
Thorium 230	14269-63-7	0.043	0.34	0.722	1.00	U	TH
Thorium 232	TH-232	0.383	0.26	0.326	1.00		TH

ARRA 200-CW-3 - Soil Sampling

**DATA SHEETS**  
Page 9  
**SUMMARY DATA SECTION**  
Page 25

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>
<b>Page 29 of 66</b>

# EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H4026

Test <u>AM</u>	Matrix <u>SOLID</u>
SDG <u>7863</u>	
Contact <u>N. Joseph Verville</u>	

## LAB METHOD SUMMARY

AMERICIUM 241 IN SOLIDS  
ALPHA SPECTROSCOPY

Client <u>CHPRC</u>
Contract No. <u>33677</u>
Contract SDG <u>H4026</u>

## RESULTS

LAB	RAW	SUF-	Americium	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID
				241

Preparation batch 7211-175

R907138-01	7863-001	B210X2	U	
R907138-02	R1	7863-002	B210X3	U
R907138-03	R1	7863-003	B210X8	U
R907138-04	R1	7863-004	B21106	U
R907138-10		7863-010	Lab Control Sample	ok
R907138-11	R1	7863-011	Method Blank	U
R907138-12		7863-012	Duplicate (R907138-04)	- U

Nominal values and limits from method RDLS (pCi/g) 1.00

ARRA 200-CW-3 - Soil Sampling

## METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-
SAMPLE ID	TEST	FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD PREPARED YZED DETECTOR

Preparation batch 7211-175 2 $\sigma$  prep error 8.0 % Reference Lab Notebook No. 7211 pg.175

R907138-01	B210X2	0.551	0.500	42	117	13	08/05/09	08/05	SS-031
R907138-02	R1 B210X3	0.339	0.500	65	121	14	08/05/09	08/06	SS-031
R907138-03	R1 B210X8	0.368	0.500	58	121	16	08/05/09	08/06	SS-032
R907138-04	R1 B21106	0.453	0.500	49	121	16	08/05/09	08/06	SS-033
R907138-10	Lab Control Sample	0.459	0.500	36	158	08/05/09	08/05	SS-036	
R907138-11	R1 Method Blank	0.455	0.500	48	122	08/05/09	08/06	SS-034	
R907138-12	Duplicate (R907138-04)	0.471	0.500	41	159	15	08/05/09	08/05	SS-054

Nominal values and limits from method 1.00 0.500 30-110 100 100 180

PROCEDURES REFERENCE AMCMISO\_IE\_PLATE\_AEA

SPP-070 Soil Dissolution, < 1.0g Aliquot, rev 7  
CP-963 Americium and Curium in Water and Dissolved  
Samples by Extraction Chromatography, rev 6  
CP-008 Heavy Element Electroplating, rev 13

AVERAGES  $\pm$  2 SD MDA 0.442  $\pm$  0.140  
FOR 7 SAMPLES YIELD 48  $\pm$  20

## METHOD SUMMARIES

Page 1

## SUMMARY DATA SECTION

Page 26

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LMS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

# EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H4026

Test PU Matrix SOLID  
SDG 7863  
Contact N. Joseph Verville

## LAB METHOD SUMMARY

PLUTONIUM, ISOTOPIC IN SOLIDS  
ALPHA SPECTROSCOPY

Client CHPRC  
Contract No. 33677  
Contract SDG H4026

### RESULTS

LAB	RAW	SUF-		Plutonium	Plutonium
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	
				238	239/240

Preparation batch 7211-175

R907138-01	7863-001	B210X2	U	U
R907138-02	7863-002	B210X3	U	U
R907138-03	7863-003	B210X8	U	U
R907138-04	7863-004	B21106	U	U
R907138-10	7863-010	Lab Control Sample	ok	ok
R907138-11	7863-011	Method Blank	U	U
R907138-12	7863-012	Duplicate (R907138-04)	-	U

Nominal values and limits from method RDLS (pCi/g) 1.00 1.00

ARRA 200-CW-3 - Soil Sampling

### METHOD PERFORMANCE

LAB	RAW	SUF-	MAX MDA		ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-	
SAMPLE ID	TEST	FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED	DETECTOR
Preparation batch 7211-175 2σ prep error 8.0 % Reference Lab Notebook No. 7211 pg.175															
R907138-01	B210X2		0.297	0.500			71	103		13	08/05/09	08/05	SS-031		
R907138-02	B210X3		0.253	0.500			79	103		13	08/05/09	08/05	SS-032		
R907138-03	B210X8		0.309	0.500			75	103		15	08/05/09	08/05	SS-033		
R907138-04	B21106		0.316	0.500			66	103		15	08/05/09	08/05	SS-034		
R907138-10	Lab Control Sample		0.176	0.500			80	160			08/05/09	08/05	SS-036		
R907138-11	Method Blank		0.172	0.500			83	160			08/05/09	08/05	SS-038		
R907138-12	Duplicate (R907138-04)		0.289	0.500			69	160		15	08/05/09	08/05	SS-061		
Nominal values and limits from method				1.00	0.500			30-110	100	100		180			

PROCEDURES REFERENCE PUISO\_PLATE\_AEA  
SPP-070 Soil Dissolution, < 1.0g Aliquot, rev 7  
CP-941 Plutonium in Water and Dissolved Samples by Extraction Chromatography, rev 8  
CP-008 Heavy Element Electroplating, rev 13

AVERAGES ± 2 SD MDA 0.259 ± 0.123  
FOR 7 SAMPLES YIELD 75 ± 13

METHOD SUMMARIES  
Page 2  
SUMMARY DATA SECTION  
Page 27

Lab id EBERLINE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 08/11/09

**EBERLINE SERVICES / RICHMOND**

SAMPLE DELIVERY GROUP H4026

Test <u>TH</u>	Matrix <u>SOLID</u>
SDG <u>7863</u>	
Contact <u>N. Joseph Verville</u>	

**LAB METHOD SUMMARY**

THORIUM, ISOTOPIC IN SOLIDS  
ALPHA SPECTROSCOPY

Client <u>CHPRC</u>
Contract No. <u>33677</u>
Contract SDG <u>H4026</u>

**RESULTS**

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Thorium 230

**Preparation batch 7211-175**

R907138-01	7863-001	B210X2	U
R907138-02	7863-002	B210X3	U
R907138-03	7863-003	B210X8	U
R907138-04	7863-004	B21106	U
R907138-10	7863-010	Lab Control Sample	ok
R907138-11	7863-011	Method Blank	U
R907138-12	7863-012	Duplicate (R907138-04)	- U

**Preparation batch 7215-025**

R907138-05	7863-005	B21C94	U
R907138-06	7863-006	B21C96	U
R907138-07	7863-007	B21C98	U
R907138-08	7863-008	B21CB0	U
R907138-09	7863-009	B21CB2	U
R907138-13	7863-013	Lab Control Sample	ok
R907138-14	7863-014	Method Blank	U
R907138-15	7863-015	Duplicate (R907138-05)	- U

Nominal values and limits from method      RDLS (pCi/g)      1.00

ARRA 200-CW-3 - Soil Sampling

**METHOD SUMMARIES**

Page 3

**SUMMARY DATA SECTION**

Page 28

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LMS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

Test TH Matrix SOLID  
SDG 7863  
Contact N. Joseph Verville

## LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN SOLIDS  
ALPHA SPECTROSCOPY

Client CHPRC  
Contract No. 33677  
Contract SDG H4026

### METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST FIX	SUF- CLIENT SAMPLE ID	MAX MDA pCi/g	ALIQ g	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DRIFT HELD	DAYS PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7211-175 $2\sigma$ prep error 8.0 %      Reference Lab Notebook No. 7211 pg. 175															
R907138-01		B210X2		0.659	0.250		103	158				13	08/05/09	08/05	SS-035
R907138-02		B210X3		0.679	0.250		99	159				13	08/05/09	08/05	SS-051
R907138-03		B210X8		0.568	0.250		107	156				15	08/05/09	08/05	SS-061
R907138-04		B21106		0.590	0.250		100	156				15	08/05/09	08/05	SS-062
R907138-10		Lab Control Sample		0.639	0.250		95	156					08/05/09	08/05	SS-063
R907138-11		Method Blank		0.615	0.250		96	156					08/05/09	08/05	SS-064
R907138-12		Duplicate (R907138-04)		0.638	0.250		106	159				15	08/05/09	08/05	SS-035
Preparation batch 7215-025 $2\sigma$ prep error 8.0 %      Reference Lab Notebook No. 7215 pg. 25															
R907138-05		B21C94		0.690	0.250		94	159				18	08/10/09	08/10	SS-031
R907138-06		B21C96		0.662	0.250		98	159				18	08/10/09	08/10	SS-032
R907138-07		B21C98		0.645	0.250		108	154				18	08/10/09	08/10	SS-035
R907138-08		B21CB0		0.621	0.250		95	159				18	08/10/09	08/10	SS-033
R907138-09		B21CB2		0.722	0.250		82	159				18	08/10/09	08/10	SS-034
R907138-13		Lab Control Sample		0.593	0.250		107	159					08/10/09	08/10	SS-063
R907138-14		Method Blank		0.641	0.250		91	159					08/10/09	08/10	SS-064
R907138-15		Duplicate (R907138-05)		0.636	0.250		109	159				18	08/10/09	08/10	SS-051
Nominal values and limits from method				1.00	0.250		30-110	150					180		

PROCEDURES	REFERENCE	THISO_IE_PLATE_AEA
SPP-070		Soil Dissolution, < 1.0g Aliquot, rev 7
CP-900		Thorium in Water and Dissolved Solid Samples by Extraction Chromatography, rev 1
CP-008		Heavy Element Electropinating, rev 13

AVERAGES $\pm$ 2 SD	MDA 0.640 $\pm$ 0.080
FOR 15 SAMPLES	YIELD 99 $\pm$ 15

METHOD SUMMARIES  
Page 4  
SUMMARY DATA SECTION  
Page 29

Lab id EBRLNE
Protocol CHPRC
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 08/11/09

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

Test U	Matrix <u>SOLID</u>
SDG	<u>7863</u>
Contact	<u>N. Joseph Verville</u>

## LAB METHOD SUMMARY

URANIUM, ISOTOPIC IN SOLIDS  
ALPHA SPECTROSCOPY

Client	<u>CHPRC</u>
Contract No.	<u>33677</u>
Contract SDG	<u>H4026</u>

## RESULTS

LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	1: Uranium	2: Uranium	3: Uranium	RESULT RATIOS (%)			
					233/234	235	238	1+3	2σ	2+3	2σ
<b>Preparation batch 7211-175</b>											
R907138-01	7863-001	B210X2			0.419	U	0.355	118	99	11	23
R907138-02	7863-002	B210X3			0.315	U	0.551	57	55	9	18
R907138-03	7863-003	B210X8			0.687	U	0.687	100	68	0	11
R907138-04	7863-004	B21106			0.654	U	0.385	170	130	12	25
R907138-10	7863-010	Lab Control Sample			ok	ok	ok				
R907138-11	7863-011	Method Blank			U	U	U				
R907138-12	7863-012	Duplicate (R907138-04)			ok	-	U	ok			
Nominal values and limits from method								121	93	0	17
ARRA 200-CW-3 - Soil Sampling								100	4		
								Averages 113	6		

## METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MAX MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
				pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
<b>Preparation batch 7211-175      2σ prep error 8.0 %      Reference Lab Notebook No. 7211 pg.175</b>																
R907138-01	B210X2			0.299	0.500			84	103			12	08/03/09	08/04	SS-031	
R907138-02	B210X3			0.364	0.500			66	104			12	08/03/09	08/04	SS-032	
R907138-03	B210X8			0.303	0.500			73	104			14	08/03/09	08/04	SS-033	
R907138-04	B21106			0.356	0.500			70	104			14	08/03/09	08/04	SS-034	
R907138-10	Lab Control Sample			0.674	0.500			108	103				08/03/09	08/04	SS-035	
R907138-11	Method Blank			0.270	0.500			77	104				08/03/09	08/04	SS-036	
R907138-12	Duplicate (R907138-04)			0.259	0.500			82	104			14	08/03/09	08/04	SS-038	
Nominal values and limits from method				1.00	0.500			30-110	100	100			180			

PROCEDURES	REFERENCE	UIISO_PLATE_AEA
SPP-070	Soil Dissolution, < 1.0g Aliquot, rev 7	
CP-921	Uranium in Water and Dissolved Samples by Extraction Chromatography, rev 1	
CP-008	Heavy Element Electropelating, rev 13	

AVERAGES ± 2 SD	MDA <u>0.361 ± 0.287</u>
FOR 7 SAMPLES	YIELD <u>80 ± 28</u>

METHOD SUMMARIES  
Page 5  
SUMMARY DATA SECTION  
Page 30

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LMS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

Test SR Matrix SOLID  
SDG 7863  
Contact N. Joseph Verville

## LAB METHOD SUMMARY

TOTAL STRONTIUM IN SOLIDS  
BETA COUNTING

Client CHPRC  
Contract No. 33677  
Contract SDG H4026

## RESULTS

LAB	RAW	SUF-		Total	
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	Strontium

Preparation batch 7211-175

R907138-01	7863-001	B210X2	U
R907138-02	7863-002	B210X3	U
R907138-03	7863-003	B210X8	U
R907138-04	7863-004	B21106	U
R907138-10	7863-010	Lab Control Sample	ok
R907138-11	7863-011	Method Blank	U
R907138-12	7863-012	Duplicate (R907138-04)	- U

Nominal values and limits from method RDLS (pCi/g) 1.00

ARRA 200-CW-3 - Soil Sampling

## METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST	FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED	DETECTOR

Preparation batch 7211-175 2σ prep error 10.4 % Reference Lab Notebook No. 7211 pg.175

R907138-01	B210X2	0.305	1.00	96	100	11	08/03/09	08/03	GRB-202
R907138-02	B210X3	0.387	1.00	92	100	11	08/03/09	08/03	GRB-202
R907138-03	B210X8	0.322	1.00	93	100	13	08/03/09	08/03	GRB-204
R907138-04	B21106	0.399	1.00	94	100	13	08/03/09	08/03	GRB-206
R907138-10	Lab Control Sample	0.282	1.00	90	100		08/03/09	08/03	GRB-204
R907138-11	Method Blank	0.320	1.00	91	100		08/03/09	08/03	GRB-217
R907138-12	Duplicate (R907138-04)	0.298	1.00	93	100	13	08/03/09	08/03	GRB-218

Nominal values and limits from method 1.00 1.00 40-110 100 180

PROCEDURES REFERENCE SRTOT\_SEP\_PRECIP\_GPC  
SPP-070 Soil Dissolution, < 1.0g Aliquot, rev 7  
CP-383 Strontium in Dissolved Solid of < 5.0g Aliquot,  
rev 1

AVERAGES ± 2 SD MDA 0.330 ± 0.090  
FOR 7 SAMPLES YIELD 93 ± 4

## METHOD SUMMARIES

Page 6

## SUMMARY DATA SECTION

Page 31

Lab id EBRINE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 08/11/09

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

Test TC Matrix SOLID  
 SDG 7863  
 Contact N. Joseph Verville

## LAB METHOD SUMMARY

TECHNETIUM 99 IN SOLIDS  
 BETA COUNTING

Client CHPRC  
 Contract No. 33677  
 Contract SDG H4026

## RESULTS

LAB	RAW	SUF-	Technetium		
SAMPLE ID	TEST	FIX	PLANCHET	CLIENT SAMPLE ID	99

Preparation batch 7211-175

R907138-01	7863-001	B210X2	U
R907138-02	7863-002	B210X3	U
R907138-03	7863-003	B210X8	U
R907138-04	7863-004	B21106	U
R907138-10	7863-010	Lab Control Sample	ok
R907138-11	7863-011	Method Blank	U
R907138-12	7863-012	Duplicate (R907138-04)	- U

Nominal values and limits from method RDLS (pCi/g) 15.0

ARRA 200-CW-3 - Soil Sampling

## METHOD PERFORMANCE

LAB	RAW	SUF-	MDA		ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-	
SAMPLE ID	TEST	FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED	DETECTOR
Preparation batch 7211-175 2σ prep error 13.2 % Reference Lab Notebook No. 7211 pg.175															
R907138-01	B210X2		0.512	1.00			72	100		13	08/01/09	08/05	GRB-230		
R907138-02	B210X3		0.448	1.00			81	100		12	08/01/09	08/04	GRB-207		
R907138-03	B210X8		0.447	1.00			82	100		14	08/01/09	08/04	GRB-217		
R907138-04	B21106		0.454	1.00			77	100		14	08/01/09	08/04	GRB-218		
R907138-10	Lab Control Sample		0.497	1.00			71	100			08/01/09	08/04	GRB-220		
R907138-11	Method Blank		0.462	1.00			76	100			08/01/09	08/05	GRB-202		
R907138-12	Duplicate (R907138-04)		0.466	1.00			75	100		14	08/01/09	08/04	GRB-202		
Nominal values and limits from method				15.0	1.00			30-110	50		180				

PROCEDURES REFERENCE TC99\_TR\_SEP\_GPC  
 SPP-062 Sample Aliquoting, rev 1  
 CP-021 Preparation of Tc-99m Tracer, rev 4  
 CP-431 Technetium-99 Purification of Soil or Resin by Extraction Chromatography, rev 2  
 CP-008 Heavy Element Electroplating, rev 13

AVERAGES ± 2 SD MDA 0.469 ± 0.051  
 FOR 7 SAMPLES YIELD 76 ± 8

## METHOD SUMMARIES

Page 7

## SUMMARY DATA SECTION

Page 32

Lab id EBERLINE  
 Protocol CHPRC  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 08/11/09

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

Test GAM Matrix SOLID  
SDG 7863  
Contact N. Joseph Verville

## LAB METHOD SUMMARY

GAMMA SCAN  
GAMMA SPECTROSCOPY

Client CHPRC  
Contract No. 33677  
Contract SDG H4026

## RESULTS

LAB	RAW	SUF-				
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt 60	Cesium 137	
Preparation batch 7211-175						
R907138-01	7863-001	B210X2		U	U	
R907138-02	7863-002	B210X3		U	U	
R907138-03	7863-003	B210X8		U	U	
R907138-04	7863-004	B21106		U	U	
R907138-10	7863-010	Lab Control Sample		ok	ok	
R907138-11	7863-011	Method Blank		U	U	
R907138-12	7863-012	Duplicate (R907138-04)		-	U	-
Nominal values and limits from method			RDLS (pCi/g)	0.050	0.100	
ARRA 200-CW-3 - Soil Sampling						

## METHOD PERFORMANCE

LAB	RAW	SUF-	MDA		ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-	
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7211-175 $2\sigma$ prep error 7.0 %      Reference Lab Notebook No. 7211 pg.175															
R907138-01	B210X2		14.8	195					126			11	08/01/09	08/03	JR,07,00
R907138-02	B210X3		16.2	201					111			11	08/01/09	08/03	JR,07,00
R907138-03	B210X8		5.09	606					110			13	08/01/09	08/03	02,01,00
R907138-04	B21106		9.30	524					110			13	08/01/09	08/03	MB,05,00
R907138-10	Lab Control Sample		0.040	190					110				08/01/09	08/03	01,02,00
R907138-11	Method Blank		15.8	190					109				08/01/09	08/03	01,04,00
R907138-12	Duplicate (R907138-04)		5.33	524					126			13	08/01/09	08/03	02,01,00
Nominal values and limits from method			0.050	190					100			180			

PROCEDURES	REFERENCE	GAMMA_GS
SPP-100	Preparation of Sample for Gamma Spectroscopy,	
	rev 0	

AVERAGES $\pm$ 2 SD	MDA <u>9.51</u> $\pm$ <u>12.6</u>
FOR 7 SAMPLES	YIELD _____ $\pm$ _____

## METHOD SUMMARIES

Page 8

## SUMMARY DATA SECTION

Page 33

Lab id EBRINE
Protocol CHPRC
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 08/11/09

**EBERLINE SERVICES/RICHMOND**

SAMPLE DELIVERY GROUP H4026

Test H Matrix SOLID  
SDG 7863  
Contact N. Joseph Verville

**LAB METHOD SUMMARY**  
TRITIUM IN SOLIDS  
LIQUID SCINTILLATION COUNTING

Client CHPRC  
Contract No. 33677  
Contract SDG H4026

**RESULTS**

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Tritium
<b>reparation batch 7211-175</b>				
R907138-01	7863-001	B210X2		U
R907138-02	7863-002	B210X3		U
R907138-03	7863-003	B210X8		U
R907138-04	7863-004	B21106		U
R907138-05	7863-005	B21C94		U
R907138-06	7863-006	B21C96		U
R907138-07	7863-007	B21C98		U
R907138-08	7863-008	B21CB0		U
R907138-09	7863-009	B21CB2		U
R907138-10	7863-010	Lab Control Sample	ok	
R907138-11	7863-011	Method Blank	U	
R907138-12	7863-012	Duplicate (R907138-04)	-	U

Nominal values and limits from method RDLS (pCi/g) 400  
ARRA 200-CW-3 - Soil Sampling

**METHOD SUMMARIES**

Page 9

**SUMMARY DATA SECTION**

Page 34

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 08/11/09

# EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H4026

Test H Matrix SOLID  
SDG 7863  
 Contact N. Joseph Verville

## LAB METHOD SUMMARY

TRITIUM IN SOLIDS  
 LIQUID SCINTILLATION COUNTING

Client CHPRC  
 Contract No. 33677  
 Contract SDG H4026

### METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST FIX	SUF- CLIENT SAMPLE ID	MDA pCi/g	ALIQ g	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DRIFT HELD	DAYS PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7211-175 $2\sigma$ prep error 10.0 %      Reference Lab Notebook No. 7211 pg.175															
R907138-01		B210X2		7.51	0.202		100	50				12	08/03/09	08/04	LSC-007
R907138-02		B210X3		6.79	0.223		100	50				12	08/03/09	08/04	LSC-007
R907138-03		B210X8		7.63	0.214		100	50				14	08/03/09	08/04	LSC-007
R907138-04		B21106		6.23	0.245		100	50				14	08/03/09	08/04	LSC-007
R907138-05		B21C94		6.32	0.241		100	50				12	08/03/09	08/04	LSC-007
R907138-06		B21C96		7.20	0.210		100	50				12	08/03/09	08/04	LSC-007
R907138-07		B21C98		7.24	0.210		100	50				12	08/03/09	08/04	LSC-007
R907138-08		B21CB0		7.40	0.223		100	50				12	08/03/09	08/04	LSC-007
R907138-09		B21CB2		7.00	0.217		100	50				12	08/03/09	08/04	LSC-007
R907138-10		Lab Control Sample		7.44	0.200		100	50					08/03/09	08/04	LSC-007
R907138-11		Method Blank		7.56	0.200		100	50					08/03/09	08/04	LSC-007
R907138-12		Duplicate (R907138-04)		6.58	0.232		100	50				14	08/03/09	08/04	LSC-007
Nominal values and limits from method				400	0.200				25				180		

PROCEDURES    REFERENCE    TRITIUM\_COX\_LSC  
 CP-251        Tritium/Carbon-14 Oxidation, rev 10

AVERAGES  $\pm$  2 SD                  MDA 7.08  $\pm$  0.978  
 FOR 12 SAMPLES                  YIELD 100  $\pm$  0

METHOD SUMMARIES  
 Page 10

SUMMARY DATA SECTION  
 Page 35

Lab id EBRLNE  
 Protocol CHPRC  
 Version Ver 1.0  
 Form DVD-LMS  
 Version 3.06  
 Report date 08/11/09

**EBERLINE SERVICES/RICHMOND**

SAMPLE DELIVERY GROUP H4026

Test NI L Matrix SOLID  
SDG 7863  
Contact N. Joseph Verville

**LAB METHOD SUMMARY**  
NICKEL 63 IN SOLIDS  
LIQUID SCINTILLATION COUNTING

Client CHPRC  
Contract No. 33677  
Contract SDG H4026

**RESULTS**

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Nickel 63

**Preparation batch 7211-175**

R907138-01	7863-001	B210X2	U
R907138-02	7863-002	B210X3	U
R907138-03	7863-003	B210X8	U
R907138-04	7863-004	B21106	U
R907138-05	7863-005	B21C94	U
R907138-06	7863-006	B21C96	U
R907138-07	7863-007	B21C98	U
R907138-08	7863-008	B21CB0	U
R907138-09	7863-009	B21CB2	U
R907138-10	7863-010	Lab Control Sample	ok
R907138-11	7863-011	Method Blank	U
R907138-12	7863-012	Duplicate (R907138-04)	- U

Nominal values and limits from method RDLS (pCi/g) 30.0

ARRA 200-CW-3 - Soil Sampling

**METHOD SUMMARIES**

Page 11

**SUMMARY DATA SECTION**

Page 36

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-LMS  
Version 3.06  
Report date 08/11/09

# EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H4026

Test NI L Matrix SOLID  
SDG 7863  
Contact N. Joseph Verville

## LAB METHOD SUMMARY

NICKEL 63 IN SOLIDS  
LIQUID SCINTILLATION COUNTING

Client CHPRC  
Contract No. 33677  
Contract SDG H4026

### METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST FIX	SUF- CLIENT SAMPLE ID	MDA pCi/g	ALIQ g	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	HELD PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7211-175 $2\sigma$ prep error 11.2 %      Reference Lab Notebook No. 7211 pg.175														
R907138-01		B210X2	3.39	0.500		83	50			13	08/05/09	08/05	LSC-004	
R907138-02		B210X3	3.51	0.500		80	50			13	08/05/09	08/05	LSC-004	
R907138-03		B210X8	3.32	0.500		85	50			15	08/05/09	08/05	LSC-004	
R907138-04		B21106	3.41	0.500		83	50			15	08/05/09	08/05	LSC-004	
R907138-05		B21C94	3.31	0.500		85	50			13	08/05/09	08/05	LSC-004	
R907138-06		B21C96	3.45	0.500		82	50			13	08/05/09	08/05	LSC-004	
R907138-07		B21C98	3.38	0.500		83	50			13	08/05/09	08/05	LSC-004	
R907138-08		B21CB0	3.42	0.500		82	50			13	08/05/09	08/05	LSC-004	
R907138-09		B21CB2	3.36	0.500		84	50			13	08/05/09	08/05	LSC-004	
R907138-10		Lab Control Sample	2.96	0.500		95	50				08/05/09	08/05	LSC-004	
R907138-11		Method Blank	2.92	0.500		96	50				08/05/09	08/05	LSC-004	
R907138-12		Duplicate (R907138-04)	3.34	0.500		84	50			15	08/05/09	08/05	LSC-004	
Nominal values and limits from method			30.0	0.500		40-110	25			180				

PROCEDURES	REFERENCE	NI63_LSC
SPP-070	Soil Dissolution, < 1.0g Aliquot, rev 7	
CP-280	Nickel-63 Purification, rev 5	

AVERAGES $\pm$ 2 SD FOR 12 SAMPLES	MDA <u>3.31</u> $\pm$ <u>0.367</u>
	YIELD <u>85</u> $\pm$ <u>10</u>

### METHOD SUMMARIES

Page 12

### SUMMARY DATA SECTION

Page 37

Lab id <u>EBERLINE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LMS</u>
Version <u>3.06</u>
Report date <u>08/11/09</u>

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**S A M P L E   S U M M A R Y**

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- \* LAB SAMPLE ID is the lab's primary identification for a sample.
- \* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- \* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- \* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.  
  
QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.
- \* All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

**REPORT GUIDES**

Page 1

**SUMMARY DATA SECTION**

Page 38

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**P R E P A R A T I O N   B A T C H   S U M M A R Y**

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- \* The preparation batches are shown in the same order as the Method Summary Reports are printed.
- \* Only analyses of planchets relevant to the SDG are included.
- \* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- \* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified.  
Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

**REPORT GUIDES**

Page 2

**SUMMARY DATA SECTION**

Page 39

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**W O R K   S U M M A R Y**

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- \* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- \* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- \* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- \* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- \* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- \* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

**REPORT GUIDES**

Page 3

**SUMMARY DATA SECTION**

Page 40

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**D A T A   S H E E T**

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- \* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- \* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- \* ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- \* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- \* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

U The RESULT is less than the MDA (Minimum Detectable Activity).

**REPORT GUIDES**

Page 4

**SUMMARY DATA SECTION**

Page 41

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
SAMPLE DELIVERY GROUP H4026

SDG 7863  
Contact N. Joseph Verville

**G U I D E ,   c o n t .**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**D A T A   S H E E T**

If the MDA is blank, the ERROR is used as the limit.

- J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

- L Some Lab Control Sample that QC'd this sample had a low recovery. The lab can disable assignment of this qualifier.
- H Similar to 'L' except the recovery was high.
- P The RESULT is 'preliminary'.
- X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.
- 2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- \* An MDA is underlined if it is bigger than its RDL.

**REPORT GUIDES**

Page 5

**SUMMARY DATA SECTION**

Page 42

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**G U I D E ,   c o n t .**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**D A T A   S H E E T**

- \* An **ERROR** is underlined if the 1.645 sigma counting error is bigger than both the **MDA** and the **RESULT**, implying that the **MDA** may not be a good estimate of the 'real' minimum detectable activity.
- \* A negative **RESULT** is underlined if it is less than the negative of its 2 sigma counting **ERROR**.
- \* When reporting a Method Blank, a **RESULT** is underlined if greater than its **MDA**. If the **MDA** is blank, the 2 sigma counting error is used in the comparison.

**REPORT GUIDES**

Page 6

**SUMMARY DATA SECTION**

Page 43

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**L A B   C O N T R O L   S A M P L E**

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- \* An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- \* REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- \* The first, computed limits for the recovery reflect:
  1. The error of RESULT, including that introduced by rounding the result prior to printing.  
If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
  2. The error of ADDED.
  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- \* The second limits are protocol defined upper and lower QC limits for the recovery.
- \* The recovery is underlined if it is outside either of these ranges.

**REPORT GUIDES**

Page 7

**SUMMARY DATA SECTION**

Page 44

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**D U P L I C A T E**

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- \* The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '--' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- \* The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- \* The second limit for the RPD is the larger of:
  1. A fixed percentage specified in the protocol.

**REPORT GUIDES**

Page 8

**SUMMARY DATA SECTION**

Page 45

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**G U I D E ,   c o n t .**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**D U P L I C A T E**

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.
- \* The RPD is underlined if it is greater than either limit.
  - \* If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.
- Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.
- \* The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

**REPORT GUIDES**

Page 9

**SUMMARY DATA SECTION**

Page 46

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**M A T R I X   S P I K E**

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- \* All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- \* An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- \* REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- \* The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- \* The second limits are protocol defined upper and lower QC limits

**REPORT GUIDES**

Page 10

**SUMMARY DATA SECTION**

Page 47

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**G U I D E ,   c o n t .**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**M A T R I X   S P I K E**

for the recovery.

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

- \* The recovery is underlined (out of spec) if it is outside either of these ranges.

**REPORT GUIDES**

Page 11

**SUMMARY DATA SECTION**

Page 48

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**R E P O R T   G U I D E**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**M E T H O D   S U M M A R Y**

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- \* Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- \* The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- \* If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- \* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.
- \* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data'

**REPORT GUIDES**

Page 12

**SUMMARY DATA SECTION**

Page 49

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**G U I D E ,   c o n t .**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**M E T H O D   S U M M A R Y**

means no amount ADDED was specified. 'LOW' and 'HIGH' correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

\* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.

\* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

\* Aliquots are underlined if less than the nominal value specified for the method.

\* Preparation factors are underlined if greater than the nominal value specified for the method.

\* Dilution factors are underlined if greater than the nominal value specified for the method.

\* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

\* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

\* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

**REPORT GUIDES**

Page 13

**SUMMARY DATA SECTION**

Page 50

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**G U I D E ,   c o n t .**

Client CHPRC  
Contract No. 33677  
Case no SDG H4026

**M E T H O D   S U M M A R Y**

- \* Count times are underlined if less than the nominal value specified for the method.
- \* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- \* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- \* Days Held are underlined if greater than the holding time specified in the protocol.
- \* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant

**REPORT GUIDES**

Page 14

**SUMMARY DATA SECTION**

Page 51

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

**E B E R L I N E   S E R V I C E S / R I C H M O N D**  
**SAMPLE DELIVERY GROUP H4026**

SDG 7863  
Contact N. Joseph Verville

**G U I D E ,   c o n t .**

Client CHPRC  
Contract No. 33677  
Case no SDG\_H4026

**M E T H O D   S U M M A R Y**

results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included. No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

**REPORT GUIDES**

Page 15

**SUMMARY DATA SECTION**

Page 52

Lab id EBRLNE  
Protocol CHPRC  
Version Ver 1.0  
Form DVD-RG  
Version 3.06  
Report date 08/11/09

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				
COLLECTOR <i>Rosealee Rust</i>	COMPANY CONTACT CLINTON, R	TELEPHONE NO. 372-1718	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE SAF NO.	8B R09-0117	PAGE 1 OF 1 DATA TURNAROUND 7 Days / 15 Days
SAMPLING LOCATION UPR-200-NI; C7475; I-RZ	PROJECT DESIGNATION ARRA 200-CW-3: Soil Sampling	FIELD LOGBOOK NO. HNF-NL-507-1 046	ACTUAL SAMPLE DEPTH 7.0 - 9.5'			
ICE CHEST NO. <i>GSwC-8</i>	OFFSITE PROPERTY NO. SEE PTR					
SHIPPED TO Eberline Services						
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Sediment SE=Sediment T=Tissue V=Vegetation W=Water WT=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION None	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 500ml	
	<b>SPECIAL HANDLING AND/OR STORAGE</b> RADIONUCLIDES TIE TO: B210V7	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE 7-23-09	SAMPLE TIME 0845			
B210X2	SOIL					
<b>SPECIAL INSTRUCTIONS</b>						
<p><b>SIGN/ PRINT NAMES</b></p> <p>RELINQUISHED BY/REMOVED FROM <i>Easton, Dave</i> DATE/TIME <i>7-23-09 15:37</i> RECEIVED BY/STORED IN <i>7-23-09 15:37</i> DATE/TIME <i>7-23-09 15:37</i></p> <p>RELINQUISHED BY/REMOVED FROM <i>CHPPRC OR D</i> DATE/TIME <i>7-30-09</i> RECEIVED BY/STORED IN <i>7-30-09</i> DATE/TIME <i>7-30-09</i></p> <p>RELINQUISHED BY/REMOVED FROM <i>CHPPRC OR D</i> DATE/TIME <i>7-20-09</i> RECEIVED BY/STORED IN <i>7-20-09</i> DATE/TIME <i>7-20-09</i></p> <p>RELINQUISHED BY/REMOVED FROM <i>12-F. EASTON D</i> DATE/TIME <i>7-31-09 09:15</i> RECEIVED BY/STORED IN <i>7-31-09 09:15</i> DATE/TIME <i>7-31-09 09:15</i></p> <p>RELINQUISHED BY/REMOVED FROM <i>12-F. EASTON D</i> DATE/TIME <i>7-31-09 09:15</i> RECEIVED BY/STORED IN <i>7-31-09 09:15</i> DATE/TIME <i>7-31-09 09:15</i></p> <p>RELINQUISHED BY/REMOVED FROM <i>12-F. EASTON D</i> DATE/TIME <i>7-31-09 09:15</i> RECEIVED BY/STORED IN <i>7-31-09 09:15</i> DATE/TIME <i>7-31-09 09:15</i></p>						

DATE/TIME  
A-6003-6-18(01/06)

DATE/TIME  
DISPOSED BY

*COPY* ORIGINAL

## CH2MHill Plateau Remediation Company

## CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

COLLECTOR <i>Rosanne Rust</i>	COMPANY CONTACT CLINTON, R	TELEPHONE NO. 372-1718	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE SAF NO. R09-017	DATA TURNAROUND 7 Days / 15 Days
SAMPLING LOCATION UPR-200-N1; C7475; I-TD	PROJECT DESIGNATION ARRA 200-CW-3 - Soil Sampling	ACTUAL SAMPLE DEPTH 15.5 feet	COA 301972ES10	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO.	FIELD LOGBOOK NO. <i>HUF-N-527-9 pg 6</i>	OFFSITE PROPERTY NO. <i>G SWC-2</i>	SEE PTR	BILL OF LADING/AIR BILL NO. <i>SEE PTR 7978 0663 4717</i>	
SHIPPED TO Eberline Services					

**MATRIX\***  
 A=Air  
 DL=Drum  
 Liquids  
 DS=Drum  
 Solids  
 L=Liquid  
 O=Oil  
 S=Soil  
 SE=Sediment  
 T=Tissue  
 V=Vegetation  
 W=Water  
 WI=Wipe  
 X=Other

**Possible Sample Hazards/ Remarks**  
 Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

**SPECIAL HANDLING AND/OR STORAGE**  
 RADIOACTIVE TIE TO: B210V8

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	SPECIAL INSTRUCTIONS	
B210X3	SOIL	7-23-09	0635		

## CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM <i>Larry Rosanne Rust</i>	DATE/TIME <i>7-23-09/ 1527</i>	RECEIVED BY/STORED IN <i>7-23-09/ 1527</i>	DATE/TIME <i>7-23-09/ 1527</i>
RELINQUISHED BY/REMOVED FROM <i>SSC R2</i>	DATE/TIME <i>7-30-09</i>	RECEIVED BY/STORED IN <i>7-30-09</i>	DATE/TIME <i>7-30-09</i>
RELINQUISHED BY/REMOVED FROM <i>DR Parchen</i>	DATE/TIME <i>7-20-09</i>	RECEIVED BY/STORED IN <i>7-20-09</i>	DATE/TIME <i>7-20-09</i>
RELINQUISHED BY/REMOVED FROM <i>ED</i>	DATE/TIME <i>7-20-09</i>	RECEIVED BY/STORED IN <i>7-20-09</i>	DATE/TIME <i>7-20-09</i>
RELINQUISHED BY/REMOVED FROM <i>CO</i>	DATE/TIME <i>7-20-09</i>	RECEIVED BY/STORED IN <i>7-20-09</i>	DATE/TIME <i>7-20-09</i>
RELINQUISHED BY/REMOVED FROM <i>CO</i>	DATE/TIME <i>7-20-09</i>	RECEIVED BY/STORED IN <i>7-20-09</i>	DATE/TIME <i>7-20-09</i>

**ORIGINAL**

LABORATORY SECTION	RECEIVED BY	TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		PROJECT COORDINATOR		PRICE CODE		8B		DATA TURNAROUND	
COLLECTOR	F. Hon, Rosche	COMPANY CONTACT	TELEPHONE NO.	WIDRIG, DL	SAF NO.	R09-017	AIR QUALITY	<input type="checkbox"/>	7 Days / 15 Days		
SAMPLING LOCATION	UPR-200-N1; C7474; I-TD	PROJECT DESIGNATION	H4026 (7863)		COA	301972ES10	METHOD OF SHIPMENT	FEDERAL EXPRESS			
ICE CHEST NO.	HNF-N-SO7-A1	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	SEE PIR	BILL OF LADING/AIR BILL NO.		SEE PTR		7978 0663 4717		
SHIPPED TO	Eberline Services	POSSIBLE SAMPLE HAZARDS / REMARKS		PRESERVATION	None						
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Issue V=Vegetation W=Water WI=Wipe X=Other		Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)		TYPE OF CONTAINER	G/P						
				NO. OF CONTAINER(S)	1						
				VOLUME	500mL						
				SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS						
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME								
B210X8	SOIL	7-21-09	10:55								
SIGN / PRINT NAMES											
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME								
F. Hon	7-21-09 14:01	No 413 SSU-R2	7-21-01 14:01								
RELINQUISHED BY/REMOVED FROM	DATE/TIME	REIEVED BY/STORED IN	DATE/TIME								
No 413 SSU-R2	7-30-09	CHPRC	7-30-09								
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME								
CHPRC	7-30-09	Fed Ex	7-30-09								
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME								
F. Hon	7-21-09 14:01	No 413 SSU-R2	7-21-01 14:01								
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME								
No 413 SSU-R2	7-30-09										
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME								
No 413 SSU-R2	7-30-09										
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME								
No 413 SSU-R2	7-30-09										
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME							
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME							

\*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis  
 GKI applies to this SAF.  
 (1)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154,  
 Americium-241} Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-238,  
 Europium-155} Plutonium-239/240 Isotopic Thorium; Isotopic Uranium {Uranium-233/234,  
 Uranium-235, Uranium-238} Strontium-89,90 -- Total Sr; Technetium-99  
 {Technetium-99} Nickel-63 {Nickel-63} Tritium - H3 {Tritium}

**ORIGINAL**

## CH2MHill Plateau Remediation Company

## CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

		PAGE 1 OF 1	
COLLECTOR	J. ton, Rose	COMPANY CONTACT	PROJECT COORDINATOR
SAMPLING LOCATION	ARRA 200-CW-3 - Soil Sampling	TELEPHONE NO.	WIDRIG, DL
ICE CHEST NO.	HNF-N-50)-1	PROJECT DESIGNATION	SAF NO. R09-017
SHIPPED TO	Eberline Services	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH
	SEE PTR	COA	METHOD OF SHIPMENT
OFFSITE PROPERTY NO.	5-7.5	30197ES10	FEDERAL EXPRESS
		BILL OF LADING/AIR BILL NO.	
		SEE PTR 79780603 4717	
<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)		PRESERVATION	None
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	500mL
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B21106	SOIL	7-11-01	1048
<b>CH2MHILL PLATEAU REMEDIATION COMPANY</b> <b>7-22-0 W2</b> <b>PMG 7/9/01</b>			
<b>SIGN/ PRINT NAMES</b>			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CH2MHILL PLATEAU REMEDIATION COMPANY	7-11-01 1401	MOU'S SURJ	7-11-01 1401
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CH2MHILL PLATEAU REMEDIATION COMPANY	7-22	CHPRC	7-22
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CH2MHILL PLATEAU REMEDIATION COMPANY	7-22 22	CHPRC	7-22 22
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CH2MHILL PLATEAU REMEDIATION COMPANY	7-22 22	CHPRC	7-22 22
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CH2MHILL PLATEAU REMEDIATION COMPANY	7-22 22	CHPRC	7-22 22
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CH2MHILL PLATEAU REMEDIATION COMPANY	7-22 22	CHPRC	7-22 22
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CH2MHILL PLATEAU REMEDIATION COMPANY	7-22 22	CHPRC	7-22 22
<b>SPECIAL INSTRUCTIONS</b> ** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-238, Europium-155} Americium-241 (Americium-241) Isotopic Thorium; Isotopic Uranium {Uranium-233/234, Plutonium-239/240} Isotopic Thorium; Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238} Strontium-89,90 -- Total Sr; Technetium-99 {Technetium-99} Nickel-63 {Nickel-63} Tritium - H3 {Tritium}}			

DATE/TIME

DATE/TIME

TITLE

DISPOSED BY

LABORATORY SECTION

DISPOSAL METHOD

DATE/TIME

DATE/TIME

ORIGINAL

A-6003-618(01/01/06)

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		R09-017-390		PAGE 1 OF 1	
COLLECTOR <i>Kosanic</i> Lust	COMPANY CONTACT CLINTON, R	TELEPHONE NO. 372-1718	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE SAF NO. R09-017	DATA TURNAROUND 15 Days / 15 Days	AIR QUALITY <input type="checkbox"/>	DATA TURNAROUND 7 Days / 7 Days
SAMPLING LOCATION UPR N-1, CT493; I-001	PROJECT DESIGNATION ARRA 200-CW-3 - Soil Sampling	FIELD LOGBOOK NO. <i>HUF-N-507-A 016</i>	ACTUAL SAMPLE DEPTH <i>7.5'-8.5'</i>	COA 301972ES10	METHOD OF SHIPMENT <i>(air)</i>	GOVERNMENT VEHICLE <i>7/23/09</i>	
ICE CHEST NO.	OFFSITE PROPERTY NO. <i>G SW C - 8</i>	N/A	N/A	BILL OF LADING/AIR BILL NO. <i>73748-0663 4717</i>			
SHIPPED TO Eberline Services		PRESERVATION None	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 120ml	SPECIAL INSTRUCTIONS	
POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)		SAMPLE ANALYSIS Nickel-63 (Nickel-63) Tritium - H3 (Tritium)					
SAMPLE NO.	MATRIX*	SAMPLE DATE <i>7-23-09</i>	SAMPLE TIME <i>1157 ✓</i>				
B21C94	SOIL						
SIGN/ PRINT NAMES							
RELINQUISHED BY/REMOVED FROM <i>Larry Rose</i>	DATE/TIME <i>7-23-09 1549</i>	RECEIVED BY/STORED IN <i>55 U-122 W0413 7-23-09 1549</i>	DATE/TIME <i>7-23-09 1549</i>	** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GI applies to this SAF.			
RELINQUISHED BY/REMOVED FROM <i>SCC R2 MO 4/3</i>	DATE/TIME <i>7-30-09</i>	RECEIVED BY/STORED IN <i>CHPRC</i>	DATE/TIME <i>7-30-09</i>				
RELINQUISHED BY/REMOVED FROM <i>CHPRC</i>	DATE/TIME <i>7-30-09</i>	RECEIVED BY/STORED IN <i>Fed Ex</i>	DATE/TIME <i>7-30-09</i>				
RELINQUISHED BY/REMOVED FROM <i>PF-WH-TA-WH</i>	DATE/TIME <i>7-31-09 0915</i>	RECEIVED BY/STORED IN <i>PF-WH-TA-WH</i>	DATE/TIME <i>7-31-09 0915</i>				
RELINQUISHED BY/REMOVED FROM <i>PF</i>	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
RELINQUISHED BY/REMOVED FROM <i>PF</i>	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
RELINQUISHED BY/REMOVED FROM <i>PF</i>	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
LABORATORY SECTION FINAL SAMPLE DISPOSITION	RECEIVED BY	TITLE					
	DISPOSAL METHOD	DATE/TIME					

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			R09-017-393		PAGE 1 OF 1	
COLLECTOR <i>Rosanne Rust</i>	COMPANY CONTACT CLINTON, R	TELEPHONE NO. 372-1718	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8C	AIR QUALITY <input type="checkbox"/>	DATA TURNAROUND 15 Days / 15 Days		
SAMPLING LOCATION UPR-N-1, C7493; I-001D	PROJECT DESIGNATION ARRA 200-CW-3 - Soil Sampling	H 4024 (7863)	SAF NO. R09-017	COA 301972ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE <i>Other</i> 7/23/00			
ICE CHEST NO. <i>GSLWC-23</i>	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH HUF-W-507-9 pg 6	OFFSITE PROPERTY NO.	7.5' - 8.5'	BILL OF LADING/AIR BILL NO. N/A	7978-0663-4717		
SHIPPED TO Eberline Services	MATRIX* A=Air D,L=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Issue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION None G/P	TYPE OF CONTAINER	NO. OF CONTAINER(S) 1	VOLUME 120mL		
	SPECIAL HANDLING AND/OR STORAGE RADIONACTIVE TIE TO: B21C93	SAMPLE ANALYSIS Nickel-63/Nickel-63; Tritium - H3 (Tritium)						
SAMPLE NO.	MATRIX*	SAMPLE DATE 7-23-09	SAMPLE TIME 1157 ✓	SPECIAL INSTRUCTIONS				
B21C96	SOIL			** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.				
CHAIN OF POSSESSION		SIGN/ PRINT NAMES		DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN S24-R2 vno 4-3 7-23-09 / 5:48	DATE/TIME 7-23-09 / 5:48		
RELINQUISHED BY/REMOVED FROM <i>Rosanne Rust</i>	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48			
RELINQUISHED BY/REMOVED FROM <i>S24-R2 vno 4-3</i>	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48			
RELINQUISHED BY/REMOVED FROM <i>CHPRC</i>	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48			
RELINQUISHED BY/REMOVED FROM <i>CHPRC</i>	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48			
RELINQUISHED BY/REMOVED FROM <i>CHPRC</i>	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48			
RELINQUISHED BY/REMOVED FROM <i>CHPRC</i>	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48	RECEIVED BY/STORED IN CHPRC	DATE/TIME 7-23-09 / 5:48			
DISPOSED BY SECTION	DISPOSAL METHOD			DATE/TIME	DATE/TIME	DATE/TIME		
LABORATORY SECTION	RECEIVED BY			DATE/TIME	DATE/TIME	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSED BY			DATE/TIME	DATE/TIME	DATE/TIME		

## CH2MHill Plateau Remediation Company

## CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

## PAGE 1 OF 1

COLLECTOR <i>Bosque Rust</i>	COMPANY CONTACT CLINTON, R	TELEPHONE NO. 372-1718	PROJECT COORDINATOR WUDRIG, DL	PRICE CODE SAF NO. R09-017	DATA TURNAROUND <input type="checkbox"/> 15 Days / 15 Days <input checked="" type="checkbox"/> 7 Days																																										
SAMPLING LOCATION UPR-N-1, CT493; I-002	PROJECT DESIGNATION ARA 200-CW-3 - Soil Sampling																																														
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH HUF-W-SOT-9 #6	COA 301972ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE																																											
SHIPPED TO EperiLine Services	OFFSITE PROPERTY NO. N/A			BILL OF LADING/AIR BILL NO. N/A 7978-0663-4717																																											
<table border="1"> <thead> <tr> <th colspan="2">POSSIBLE SAMPLE HAZARDS/ REMARKS</th> <th>PRESERVATION</th> <th colspan="3">None</th> </tr> <tr> <th colspan="2"></th> <th>TYPE OF CONTAINER</th> <th colspan="3">G/P</th> </tr> <tr> <th colspan="2"></th> <th>NO. OF CONTAINER(S)</th> <th colspan="3">1</th> </tr> <tr> <th colspan="2"></th> <th>VOLUME</th> <th colspan="3">120ml</th> </tr> <tr> <th colspan="2"></th> <th>SAMPLE ANALYSIS</th> <th colspan="3">Nickel-63 / Nickel-63; Tritium - H3 (Tritium)</th> </tr> </thead> <tbody> <tr> <td colspan="2">MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other</td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="2">SPECIAL HANDLING AND/OR STORAGE RADIONACTIVE TIE TO: B21C97</td> <td></td> <td colspan="3"></td> </tr> </tbody> </table>						POSSIBLE SAMPLE HAZARDS/ REMARKS		PRESERVATION	None					TYPE OF CONTAINER	G/P					NO. OF CONTAINER(S)	1					VOLUME	120ml					SAMPLE ANALYSIS	Nickel-63 / Nickel-63; Tritium - H3 (Tritium)			MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other						SPECIAL HANDLING AND/OR STORAGE RADIONACTIVE TIE TO: B21C97					
POSSIBLE SAMPLE HAZARDS/ REMARKS		PRESERVATION	None																																												
		TYPE OF CONTAINER	G/P																																												
		NO. OF CONTAINER(S)	1																																												
		VOLUME	120ml																																												
		SAMPLE ANALYSIS	Nickel-63 / Nickel-63; Tritium - H3 (Tritium)																																												
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other																																															
SPECIAL HANDLING AND/OR STORAGE RADIONACTIVE TIE TO: B21C97																																															
SAMPLE NO. B21C98	MATRIX* SOIL	SAMPLE DATE 2-23-09	SAMPLE TIME 1310 ✓	SPECIAL INSTRUCTIONS																																											
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LABORATORY SECTION	RECEIVED BY	DATE/TIME																																													
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME																																													

DATE/TIME	TITLE

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			R09-017-399		PAGE 1 OF 1
COLLECTOR	Rosanne Rost	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8C	DATA TURNAROUND
SAMPLING LOCATION	UR-N-1, C7493; I-003 (15)	PROJECT DESIGNATION	ARRA 200-CW-3 - Soil Sampling	WIDRIG, DL	SAF NO.	R09-017	15-Days / 15 Days
ICF CHEST NO.		FIELD LOGBOOK NO.	H4026 (7863)	ACTUAL SAMPLE DEPTH	COA	GOVERNMENT VEHICLE	METHOD OF SHIPMENT
SHIPPED TO	Eberline Services	OFFSITE PROPERTY NO.	HWF-W-507-2-A6	14.5' 15'	301972ES10	7/23/05	BILL OF LADING/AIR BILL NO.
N/A		N/A	N/A	N/A	N/A	7978	7/23/05
<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)		PRESERVATION	None	G/P			
		TYPE OF CONTAINER					
		NO. OF CONTAINER(S)	1				
		VOLUME	120mL				
<b>SPECIAL HANDLING AND/OR STORAGE</b> RADIOACTIVE TIE TO: B21C99		SAMPLE ANALYSIS	Nickel-63 (Nickel-63) Tritium - H3 (Tritium)				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B21CB0	SOIL	7-23-09	13:22	✓			
<b>SPECIAL INSTRUCTIONS</b>							
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.							
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Henry Koenig, Jenny Ramee	7-23-09/1540	S20R2	7-23-09/1540	Henry Koenig, Jenny Ramee	7-23-09/1540	S20R2	7-23-09/1540
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
5 Sec R2 1100 4/3	7-30-03	CHPRC	7-30-03	5 Sec R2 1100 4/3	7-30-03	CHPRC	7-30-03
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
CHPRC	7-30-03	Ex	7-30-03	CHPRC	7-30-03	Ex	7-30-03
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
✓	7/31/09	✓	7/31/09	✓	7/31/09	✓	7/31/09
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
4				4			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
✓				✓			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY	TITLE					
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME					
		DISPOSED BY					

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			R09-017-402	PAGE 1 OF 1
COLLECTOR <i>Leslie Rust</i>	COMPANY CONTACT CLINTON, R	TELEPHONE NO. 372-1718	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE SAF NO. R09-017	DATA TURNAROUND 15-days / 15 Days <i>7/23/05</i>	
SAMPLING LOCATION UR-N-1, C7493; I-004 (15)	PROJECT DESIGNATION ARA 200-CW-3 - Soil Sampling	ACTUAL SAMPLE DEPTH H4020 (7863)	COA 301972ES10	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
ICF CHEST NO. <i>W/A</i>	FIELD LOGBOOK NO. <b>HNF-N-501-9 pg 6</b>	OPPOSITE PROPERTY NO. N/A	BILL OF LADING/AIR BILL NO. N/A			
<p><b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b>            A=Air            Dl=Drum            Liquids            Solids            L=Liquid            O=Oil            S=Soil            SE=Sediment            T=Tissue            V=Vegetation            W=Water            WI=Wipe            X=Other  <b>SPECIAL HANDLING AND/OR STORAGE</b>            RADIOACTIVE TIE TO: B21CB1         </p>						
SAMPLE NO.	MATRIX*	SAMPLE DATE <b>7-23-05</b>	SAMPLE TIME <b>1330</b>	SPECIAL INSTRUCTIONS		
B21CB2	SOIL			** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.		
SIGN/ PRINT NAMES						DATE/TIME <i>7-23-05</i>
RELINQUISHED BY/REMOVED FROM <i>Leslie Rust</i>	DATE/TIME <i>7-23-05</i>	RECEIVED BY/STORED IN <i>S-1</i>	DATE/TIME <i>7-23-05</i>			
RELINQUISHED BY/REMOVED FROM <i>S-1</i>	DATE/TIME <i>7-23-05</i>	RECEIVED BY/STORED IN <i>CHPRC</i>	DATE/TIME <i>7-23-05</i>			
RELINQUISHED BY/REMOVED FROM <i>CHPRC</i>	DATE/TIME <i>7-30-05</i>	RECEIVED BY/STORED IN <i>Fed EX</i>	DATE/TIME <i>7-31-05</i>			
RELINQUISHED BY/REMOVED FROM <i>Ex</i>	DATE/TIME <i>8-1-05</i>	RECEIVED BY/STORED IN <i>AF, WTH, KHN</i>	DATE/TIME <i>8-1-05</i>			
RELINQUISHED BY/REMOVED FROM <i>CJ</i>	DATE/TIME <i>8-1-05</i>	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM <i>CJ</i>	DATE/TIME <i>8-1-05</i>	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM <i>CJ</i>	DATE/TIME <i>8-1-05</i>	RECEIVED BY/STORED IN	DATE/TIME			
LABORATORY SECTION <b>DISPOSAL METHOD</b>	RECEIVED BY <b>DISPOSED BY</b>	DATE/TIME				
FINAL SAMPLE DISPOSITION	DISPOSED BY	DATE/TIME				



# RICHMOND, CA LABORATORY

## SAMPLE RECEIPT CHECKLIST

Client: CPRC City: MICHAUD State: WA  
 Date/Time received 07/31/09 0915 CoC No. 709-017-320, 321, 326, 336, 390, 393, 396, 399, 402  
 Container I.D. No. GSWC-8 Requested TAT (Days) 7 P.O. Received Yes  No

### INSPECTION

1. Custody seals on shipping container intact? Yes  No  N/A
2. Custody seals on shipping container dated & signed? Yes  No  N/A
3. Custody seals on sample containers intact? Yes  No  N/A
4. Custody seals on sample containers dated & signed? Yes  No  N/A
5. Packing material is: Wet  Dry
6. Number of samples in shipping container: 9 Sample Matrix S
7. Number of containers per sample: 1 (Or see CoC \_\_\_\_\_)
8. Samples are in correct container Yes  No
9. Paperwork agrees with samples? Yes  No
10. Samples have: Tape  Hazard labels  Rad labels  Appropriate sample labels
11. Samples are: In good condition  Leaking  Broken Container  Missing
12. Samples are: Preserved  Not preserved  pH \_\_\_\_\_ Preservative \_\_\_\_\_
13. Describe any anomalies:  
\_\_\_\_\_  
\_\_\_\_\_

14. Was P.M. notified of any anomalies? Yes  No  Date \_\_\_\_\_
15. Inspected by HK Date: 07/31/09 Time: 10:30

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
for samples	160						

Ion Chamber Ser. No. \_\_\_\_\_

Calibration date \_\_\_\_\_

Alpha Meter Ser. No. \_\_\_\_\_

Calibration date \_\_\_\_\_

Beta/Gamma Meter Ser. No. \_\_\_\_\_

Calibration date 27 MAY 09